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SHARP CL13M10/15 SERVICE MANUAL

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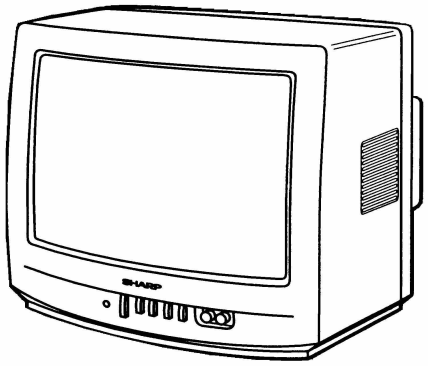
SHARP SERVICE MANUAL

S39E513L-M100



COLOR TELEVISION

Chassis No. SN-80

MODELS 13L-M100/150 CL13M10/15 14ML10

In the interests of user-safety (Required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified should be used.

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ELECTRICAL SPECIFICATIONS

POWER INPUT ..... 120 V AC 60 Hz
POWER RATING ..... 69 W
PICTURE SIZE ..... 580cm^2 (89.8sq inch)
CONVERGENCE ..... Magnetic
SWEEP DEFLECTION ..... Magnetic
FOCUS ..... Hi-Bi-Potential Electrostatic
INTERMEDIATE FREQUENCIES
  Picture IF Carrier Frequency ..... 45.75 MHz
  Sound IF Carrier Frequency ..... 41.25 MHz
  Color Sub-Carrier Frequency ..... 42.17 MHz (Nominal)
AUDIO POWER
  OUTPUT RATING ..... 0.9W (at 10% distortion)
SPEAKER
  SIZE ..... 8 cm (Round)
  VOICE COIL IMPEDANCE ..... 8 ohm at 400 Hz
ANTENNA INPUT IMPEDANCE
  VHF/UHF ..... 75 ohm Unbalanced
TUNING RANGES
  VHF-Channels ..... 2 thru 13
  UHF-Channels ..... 14 thru 69
  CATV Channels ..... 1 thru 125
  U.S.A.: (EIA, Channel Plan)

Specifications are subject to change without prior notice.

SHARP CORPORATION

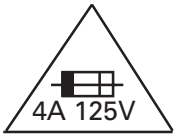
This document has been published to be used for after sales service only.
The contents are subject to change without notice.

IMPORTANT SERVICE SAFETY PRECAUTION

■ Service work should be performed only by qualified service technicians who are thoroughly familiar with all safety checks and the servicing guidelines which follow:

WARNING

1. For continued safety, no modification of any circuit should be attempted.
2. Disconnect AC power before servicing.
3. Semiconductor heat sinks are potential shock hazards when the chassis is operating.
4. The chassis in this receiver has two ground systems which are separated by insulating material. The non-isolated (hot) ground system is for the B+ voltage regulator circuit and the horizontal output circuit. The isolated ground system is for the low B+ DC voltages and the secondary circuit of the high voltage transformer.
   To prevent electrical shock use an isolation transformer between the line cord and power receptacle, when servicing this chassis.



CAUTION: FOR CONTINUED PROTECTION AGAINST A RISK OF FIRE, REPLACE ONLY WITH SAME TYPE 4A-125V FUSE.

SERVICING OF HIGH VOLTAGE SYSTEM AND PICTURE TUBE

When servicing the high voltage system, remove the static charge by connecting a 10k ohm resistor in series with an insulated wire (such as a test probe) between the picture tube ground and the anode lead. (AC line cord should be disconnected from AC outlet.)

1. Picture tube in this receiver employs integral implosion protection.
2. Replace with tube of the same type number for continued safety.
3. Do not lift picture tube by the neck.
4. Handle the picture tube only when wearing shatterproof goggles and after discharging the high voltage anode completely.

X-RADIATION AND HIGH VOLTAGE LIMITS

1. Be sure all service personnel are aware of the procedures and instructions covering X-radiation. The only potential source of X-ray in current solid state TV receivers is the picture tube. However, the picture tube does not emit measurable X-Ray radiation, if the high voltage is as specified in the "High Voltage Check" instructions.
   It is only when high voltage is excessive that X-radiation is capable of penetrating the shell of the picture tube including the lead in the glass material. The important precaution is to keep the high voltage below the maximum level specified.
2. It is essential that servicemen have available at all times an accurate high voltage meter.
   The calibration of this meter should be checked periodically.
3. High voltage should always be kept at the rated value –no higher. Operation at higher voltages may cause a failure of the picture tube or high voltage circuitry and;also, under certain conditions, may produce radiation in exceeding of desirable levels.
4. When the high voltage regulator is operating properly there is no possibility of an X-radiation problem. Every time a color chassis is serviced, the brightness should be tested while monitoring the high voltage with a meter to be certain that the high voltage does not exceed the specified value and that it is regulating correctly.
5. Do not use a picture tube other than that specified or make unrecommended circuit modifications to the high voltage circuitry.
6. When trouble shooting and taking test measurements on a receiver with excessive high voltage, avoid being unnecessarily close to the receiver.
   Do not operate the receiver longer than is necessary to locate the cause of excessive voltage.

IMPORTANT SERVICE SAFETY PRECAUTION

(Continued)

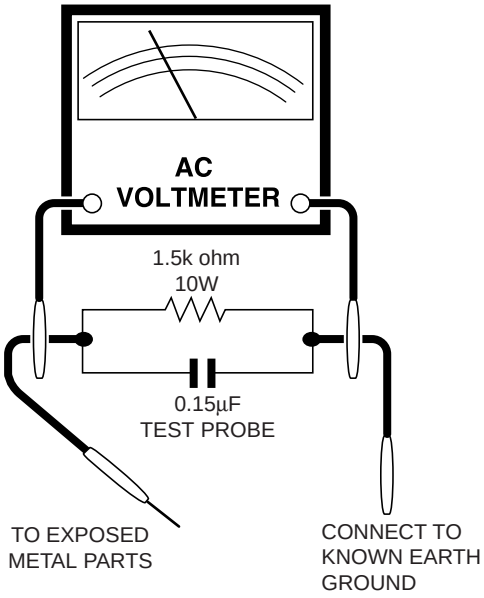
BEFORE RETURNING THE RECEIVER

(Fire & Shock Hazard)

Before returning the receiver to the user, perform the following safety checks.

1. Inspect all lead dress to make certain that leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the receiver.
2. Inspect all protective devices such as non-metallic control knobs, insulating materials, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacity networks, mechanical insulators and etc.
3. To be sure that no shock hazard exists, check for leakage current in the following manner.

- Plug the AC cord directly into a 120 volt AC outlet, (Do not use an isolation transformer for this test).
- Using two clip leads, connect a 1.5k ohm, 10 watt resistor paralleled by a 0.15µF capacitor in series with all exposed metal cabinet parts and a known earth ground, such as electrical conduit or electrical ground connected to earth ground.
- Use an AC voltmeter having with 5000 ohm per volt, or higher, sensitivity to measure the AC voltage drop across the resistor.
- Connect the resistor connection to all exposed metal parts having a return to the chassis (antenna, metal cabinet, screw heads, knobs and control shafts, escutcheon and etc.) and measure the AC voltage drop across the resistor.
  AII checks must be repeated with the AC ine cord plug connection reversed. (If necessary, a non-polarized adapter plug must be used only for the purpose of completing these check.)
  Any current measured must not exceed 0.5 milliamp. Any measurements not within the limits outlined above indicate of a potential shock hazard and corrective action must be taken before returning the instrument to the customer.



SAFETY NOTICE

Many electrical and mechanical parts in television receivers have special safety-related characteristics. These characteristics are often not evident from visual inspection, nor can protection afforded by them be necessarily increased by using replacement components rated for higher voltage, wattage, etc.
Replacement parts which have these special safety characteristics are identified in this manual; electrical components having such features are identified by "⚠" and shaded areas in the Replacement Parts Lists and Schematic Diagrams.

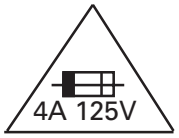
For continued protection, replacement parts must be identical to those used in the original circuit. The use of substitute replacement parts which do not have the same safety characteristics as the factory recommended replacement parts shown in this service manual, may create shock, fire, X-radiation or other hazards.

PRECAUTIONS A PRENDRE LORS DE LA REPARATION

■ **Ne peut effectuer la réparation qu' un technicien spécialisé qui s'est parfaitement accoutumé à toute vérification de sécurité et aux conseils suivants.**

AVERTISSEMENT

1. N'entreprendre aucune modification de tout circuit. C'est dangereux.
2. Débrancher le récepteur avant toute réparation.
3. Les déversoirs thermiques à semi-conducteurs peuvent présenter un danger de choc électrique lorsque le réceqteur est en marche.
4. Le châssis de ce récepteur possède deux systèmes de masse qui sont séparées par du matériel d'isolation. Le système de masse non-isolée (sous tension) est pour le circuit du régulateur de tension B+ et le circuit de sortie horizontale. Le système de masse isolée est pour les tensions DC B+ basses et le circuit secondaire du transformateur haute tension. Pour éviter tout risque d'électrocution lors de l'entretien de ce châssis, utiliser un transformateur d'isolation entre le cordon de ligne et la prise de courant.



PRECAUTION: POUR LA PROTECTION CONTINUE CONTRE LES RISQUES D'INCENDIE, REMPLACER LE FUSIBLE PAR UN FUSIBLE DE MEME TYPE 4A-125V.

REPARATION DU SYSTEME A HAUTE TENSION ET DU TUBE-IMAGE

Lors de la réparation de ce systéme, supprimer la charge statique en branchant une résistance de 10 kΩ en série avec un fil isolé (comme une sonde d'essai) entre la mise à la terre du tube-image et le fil d'anodel. (Le corden d'alimentation doit être retiré de la prise murale.)

1. Le tube image dans ce récepteur emploie une protection intégrée contre l'implosion.
2. Par mesure de sécurité, changer le tube-image pour un tube du même numéro de type.
3. Ne pas lever le tube-image par son col.
4. Ne manipuler le tube-image qu'en porant des lunettes incassables et qu'après avoir déchargé totalement la haute tension.

LIMITES DES RADIATIONS X ET DE LA HAUTE TENSION

1. Tout le personnel réparateur doit être instruit des instructions et procédés relatifs aux radiations X.
   Le tube-image, seule source de rayons X dons les téleviseurs transistorisés, n'émet pourtant pas de rayons mesurables si la haute tension est maintenue à un niveau préconisé dans la section "Vérification de la haute tension".
   C'est seulement quand la haute tension est excessive que les rayons X peuvent entrer dans l'enveloppe du tube-image y compris le conducteur de verre. Il est important de maintenir la haute tension en-dessous du niveau spécifié.
2. Il est essentiel que le réparateur ait sous la main un voltmètre à haute tension qui doit être périodiquement étalonné.
3. La haute tension doit toujours être maintenue à la valeur de régime -et pas plus haute. L'opération à des tensions plus élevées peut entraîner une panne du tube-image ou du circuit à haute tension et, dans certaines conditions, peut entraîner une radiation dépassant les niveaux préscrits.
4. Quand le régulateur à haute tension fonctionne correctement, il n'y a aucun problème de radiation X. Chaque fois qu'un châssis couleurs est réparé, la luminosité doit être examinée bout en contrôlant la haute tension à l'aide d'un voltmètre pour s'assurer que la haute tension ne dépasse pas la valeur spécifiée et qu'elle soit correctement réglée.
5. Ne pas utiliser un tube-image autre que celui spécifié et ne pas effectuer de modifications déconseillées du circuit à haute tension.
6. Lors de la recherche des pannes et des mesures d'essai sur un récepteur qui présente une haute tension excessive, éviter de s'approcher inutilement du récepteur.
   Ne pas faire fonctionner le récepteur plus longtemps que nécessaire pour localiser la cause de la tension excessive.

PRECAUTIONS A PRENDRE LORS DE LA REPARATION

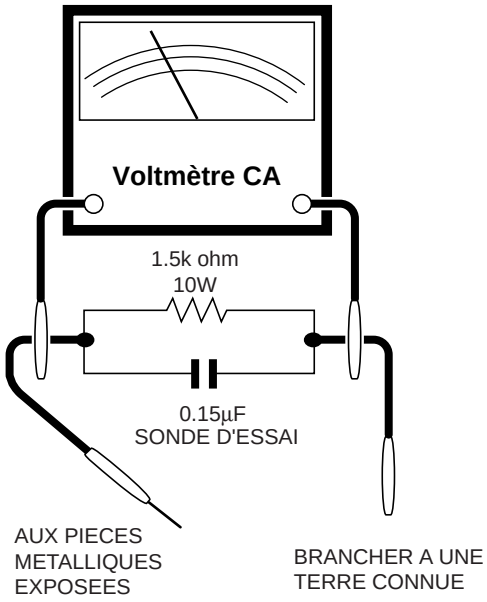
(Suite)

VERIFICATIONS CONTRE L'INCEN-DIE ET LE CHOC ELECTRIQUE

Avant de rendre le récepteur à l'utilisateur, effectuer les vérifications suivantes.

1. Inspecter tous les faisceaux de câbles pour s'assurer que les fils ne soient pas pincés ou qu'un outil ne soit pas placé entre le châssis et les autres pièces métalliques du récepteur.
2. Inspecter tous les dispositifs de protection comme les boutons de commande non-métalliques, les isolants, le dos du coffret, les couvercles ou blindages de réglage et de compartiment, les réseaux de résistance-capacité, les isolateurs mécaniques, etc.
3. S'assurer qu'il n'y ait pas de danger d'électrocution en vérifiant la fuite de courant, de la facon suivante:

- Brancher le cordon d'alimentation directem-ent à une prise de courant de 120V. (Ne pas utiliser de transformateur d'isolation pour cet essai).
- A l'aide de deux fils à pinces, brancher une résistance de 1,5 kΩ 10 watts en parallèle avec un condensateur de 0,15µF en série avec toutes les pièces métalliques exposées du coffret et une terre connue comme une conduite électrique ou une prise de terre branchée à la terre.
- Utiliser un voltmètre CA d'une sensibilité d'au moins 5000Ω/V pour mesurer la chute de tension en travers de la résistance.
- Toucher avec la sonde d'essai les pièces métalliques exposées qui présentent une voie de retour au châssis (antenne, coffret métallique, tête des vis, arbres de commande et des boutons, écusson, etc.) et mesurer la chute de tension CA en-travers de la résistance. Toutes les vérifications doivent être refaites après avoir inversé la fiche du cordon d'alimentation. (Si nécessaire, une prise d'adpatation non polarisée peut être utilisée dans le but de terminer ces vérifications.)
  Tous les courants mesurés ne doivent pas dépasser 0,5 mA.
  Dans le cas contraire, il y a une possibilité de choc électrique qui doit être supprimée avant de rendre le récepteur au client.

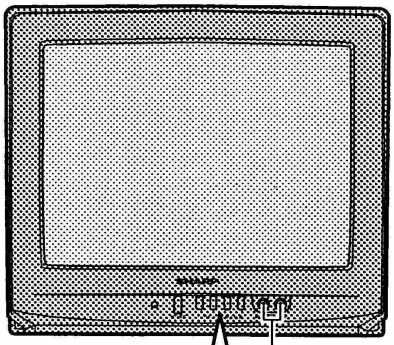


AVIS POUR LA SECURITE

De nombreuses pièces, électriques et mécaniques, dans les téléviseurs présentent des caractéristiques spéciales relatives à la sécurité, qui ne sont souvent pas évidentes à vue. Le degré de protection ne peut pas être nécessairement augmentée en utilisant des pièces de remplacement étalonnées pour haute tension, puissance, etc.
Les pièces de remplacement qui présentent ces caractéristiques sont identifiées dans ce manuel; les pièces électriques qui présentent ces particularités sont identifiées par la marque " ⚠ " et hachurées dans la liste des pièces de remplacement et les diagrammes schématiques.
Pour assurer la protection, ces pièces doivent être identiques à celles utilisées dans le circuit d'origine. L'utilisation de pièces qui n'ont pas les mêmes caractéristiques que les pièces recommandées par l'usine, indiquées dans ce manuel, peut provoquer des électrocutions, incendies, radiations X ou autres accidents.

LOCATION OF USER'S CONTROL

Front Panel



SENSOR AREA FOR REMOTE CONTROL

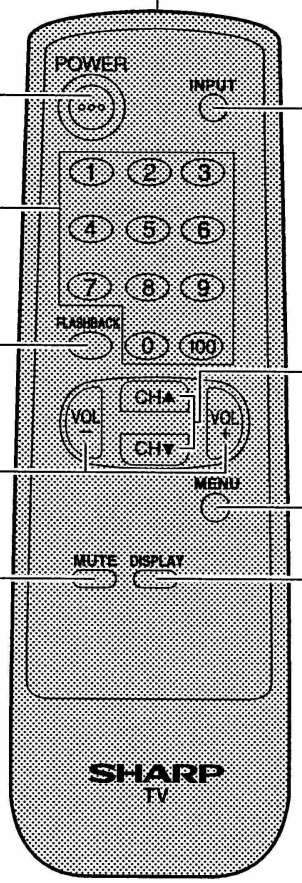
VIDEO/AUDIO IN TERMINALS

POWER
Press → On.
Press again → Off.

CHANNEL UP/DOWN
(▲) Selects next higher channel.
(▼) Selects next lower channel.

VOLUME UP/DOWN
(+) Increases sound.
(–) Decreases sound.

Basic Remote Control Functions



Infrared Transmitter Window

POWER
Press → On.
Press again → Off.

INPUT
Press → Switch to external video input mode.
Press again → Switch to TV mode.

REMOTE KEYPAD
Accesses any channel from keypad.

FLASHBACK
Returns to previous channel.

CHANNEL UP/DOWN
(▲) Selects next higher channel.
(▼) Selects next lower channel.
• Moves the " ⬍" mark of the MENU screen.

VOLUME UP/DOWN
(+) Increases sound.
(–) Decreases sound.
• In menu mode, changes or selects the TV adjustments.

MENU
Press → Accesses MAIN MENU.
Press again → Exits MAIN MENU.

MUTE
Press → Mutes sound.
Press again → Restores sound.
• CLOSED CAPTION appears when sound is muted.

DISPLAY
Press → Displays receiving channel for 4 seconds.
Press again → Removes display.
• Temporarily displays receiving channel when in Closed Caption mode.

INSTALLATION AND SERVICE INSTRUCTIONS

Note: (1) When performing any adjustments to resistor controls and transformers use non-metallic screwdrivers or TV alignment tools.
(2) Before performing adjustments, the TV set must be on at least 15 minutes.

CIRCUIT PROTECTION

The receiver is protected by a 4.0A fuse (F701), mounted on PWB-A, wired into one side of the AC line input.

X-RADIATION PROTECTOR CIRCUIT TEST

After service has been performed on the horizontal deflection system, high voltage system, B+ system, test the X-Radiation protection circuit to ascertain proper operation as follows:

1. Apply 120V AC using a variac transformer for accurate input voltage.
2. Allow for warm up and adjust all customer controls for normal picture and sound.
3. Receive a good local channel.
4. Connect a digital voltmeter to TP653 and make sure that the voltmeter reads 21.3±1.5V.
5. Apply external 28.9V DC at TP653 by using an external DC supply, TV must be shut off.
6. To reset the protector, unplug the AC cord and make a short circuit between TP651 and TP652. Now make sure that normal picture appears on the screen.
7. If the operation of the horizontal oscillator does not stop in step 5, the circuit must be repaired before the set is returned to the customer.

HIGH VOLTAGE CHECK

High voltage is not adjustable but must be checked to verify that the receiver is operating within safe and efficient design limitations as specified checks should be as follows:

1. Connect an accurate high voltage meter between ground and anode of picture tube.
2. Operate receiver for at least 15 minutes at 120V AC line voltage, with a strong air signal or a properly tuned in test signal.
3. Enter the service mode and select the service adjustment "S19" and Bus data "01" (Y-mute on).
4. The voltage should be approximately, 24.0kV (at zero beam).
   If a correct reading cannot be obtained, check circuitry for malfunctioning components. After the voltage test, make Y-mute off to the normal mode.

For adjustments of this model, the bus data is converted to various analog signals by the D/A converter circuit.

Note: There are still a few analog adjustments in this series such as focus and master screen voltage. Follow the steps below whenever the service adjustment is required. See "Table-B" to determine, if service adjustments are required.

1. Service mode

Before putting unit into the service mode, check that customer adjustments are in the normal mode. Use the reset function in the video adjustment menu to ensure customer controls are in their proper (reset) position.

2. Service number selection

Once in the service mode, press the Ch-up or Ch-down button on the remote controller or at the set. The service adjustment number will vary in increments of one, from "S01" to "OP". Select the item you wish to adjust.

3. Data number selection

Press the Vol-up or down button to adjust the data number.

To enter the service mode and exit service mode.

While pressing the Vol-up and Ch-up buttons at the sametime, plug the AC cord into a wall socket.
Now the TV set is switched on and enters the service mode.
To exit the service mode, turn the television off by pressing the power button.

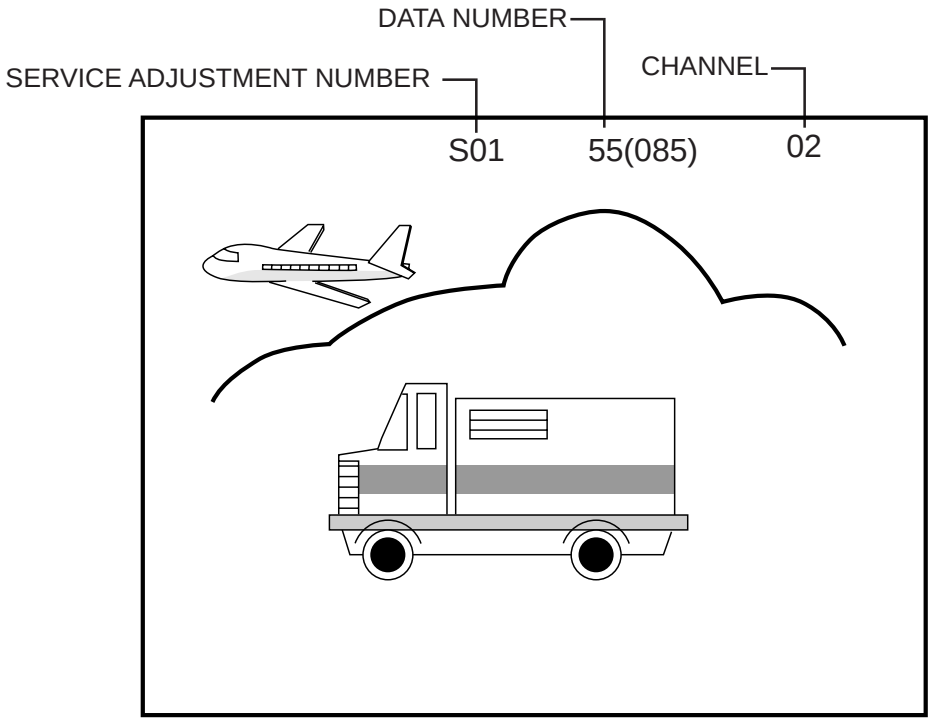


Figure A.

SERVICE NUMBER	ADJUSTMENT ITEM	DATA		ADJUSTMENT CONTENTS
		INITIAL VALUE	RANGE	
S01	PICTURE	55	00-7F	
S02	TINT	46	00-7F	
S03	COLOR	32	00-7F	
S04	BRIGHTNESS	40	00-7F	
S05	SHARPNESS	28	00-3F	Must be set to "24"
S06	VERTICAL PHASE	00	00-07	Must be set between "0" and "03"
S07	HORIZONTAL PHASE	12	00-1F	
S08	RF-AGC	23	00-3F	
S09	VERTICAL AMP	20	00-3F	
S10	VCO	2C	00-7F	
S11	R CUT-OFF	00	00-FF	
S12	G CUT -OFF	00	00-FF	
S13	B CUT-OFF	00	00-FF	
S14	G GAIN	7F	00-FF	
S15	B GAIN	7F	00-FF	
S16	TRAP(3.58MHz)	00	00 or 01	Must be set to "00"
S17	BALANCE	20	00-3F	Must be set to "20"
S18	C.C.POSITION	17	00-7F	
S19	Y-MUTE	00	00,01,03	"00"=NORMAL, "01"=No Y, "03"=No VERTICAL
S20	ENERGY SAVE OFFSET	20	00-3F	Must be set to "23"
S21	D.D.E. OFFSET	03	00-1F	Must be set to "03"
S22	OSD SETUP	00	00-03	Must be set to "00"
S23	TUNER SETUP	00	00-01	Must be set to "00"
OP	OPTION	30	00-FF	Must be set to "02"

Table - A

Holding down both the Ch-up/down buttons on the TV set at service mode for more than 2 seconds will automatically write the above initial values into IC2101.

PART REPLACED	ADJUSTMENT		NOTES
	NECESSARY	UNNECESSARY	
IC2001		X	Data is stored in IC2101.
IC201	X		The adjustment is needed to compensate for characteristics of parts including IC201.
IC2101	X		Holding down both the Ch-up/down bottons on the TV set in the service mode for more than 2 seconds will automatically write the above initial values into IC2101.
CRT	X		Adjust items related to picture tube only.

Table - B

■ SERVICE ADJUSTMENT

VCO Adjustment

1. Connect a digital voltmeter between pin (44) of IC201 and ground.
2. Select a good local channel.
3. Enter the service mode and select the service adjustment "S10".
4. Adjust the data so that digital voltmeter reads 2.2V.
5. Adjustment is completed, remove the voltmeter, return to "normal" mode.

RF AGC Adjustment

1. Receive a good local channel.
2. Enter the service mode and select the service adjustment "S08".
3. Set the data value to point where no noise or beat appears.
4. Select another channel to confirm that no noise or beat appears.
   Note 1 : You will have to come out of the service mode to select another channel.
   Note 2 : Setting the data to "00" will produce a black raster.

Screen Adjustment

1. Connect a digital voltmeter between TP852 and TP853 on the CRT Unit.
   Note: These test points may not be provided. Then connect the voltmeter to both ends of R852 located near Q852 on the foil side.
2. Receive a good local channel.
3. Enter the service mode and select the service adjustment "S03" and set the data value to "00" to set the color level to minimum (Record original data code under adjustment "S03" before changing). You may skip this step, if you selected a B/W picture or monoscope pattern.
4. Select the service adjustment "S19" and adjust the data value to "01", this turn off the luminance signal (Y-mute).
5. Select the service adjustment "S04" and adjust data value to obtain 0.17 volts on the digital voltmeter.
6. Adjust the master screen control until the raster darkens to the point where raster is barely seen.
7. Adjust the service adjustments "S11" red, "S12" green and "S13" blue to obtain a good grey scale with normal whites at low brightness level.
8. Select the service adjustment "S19" and reset data to "00". Select the service adjustment "S03" and reset data to obtain normal color level.
9. Remove digital voltmeter, and reset the master screen control to obtain normal brightness range.

White Balance Adjustment

1. Receive a good local channel.
2. Enter the service mode and select the service adjustment "S03" and set to "00" (minimum color). "S03" does not have to be adjusted, if you selected a B/W picture or monoscope pattern.
3. Alternately adjust the service adjustment data of "S14" and "S15" until a good grey scale with normal whites is obtained.
4. Select the service adjustment "S03" and adjust data to obtain normal color level.

Sub-Picture Adjustment

1. Receive a good local channel.
2. Make sure the customer picture control is set to maximum.
3. Enter the service mode and select the service adjustment "S01".
4. Adjust the data value to achieve normal contrast range.

Sub-Tint Adjustment

1. Receive a good local channel.
2. Set customer tint control to center of it's range.
3. Enter the service mode and select the service adjustment "S02".
4. Adjust "S02" data value to obtain normal flesh tones.

Sub-Color Adjustment

1. Receive a good local channel.
2. Make sure the customer color control is set to center position .
3. Enter the service mode and select the service adjustment "S03".
4. Adjust "S03" data value to obtain normal color level.

Sub-Brightness Adjustment

1. Receive a good local channel.
2. Make sure the customer brightness control is set to center position.
3. Enter the service mode and select the service adjustment "S04".
4. Adjust "S04" data value to obtain normal brightness level.

Vertical-Size Adjustment

1. Receive a good local channel.
2. Enter the service mode and select the service adjustment "S09".
3. While observing the top and bottom of the screen, adjust "S09" data value to proper vertical size.

Vertical Phase Adjustment

1. Enter the service mode and select the service adjustment "S06".
2. Adjust data value to "00"~"03" so that picture is approximate center.
   Note: This must be set "00"~"03" when adjust another data retrace line will be appear.

Horizontal Position Adjustment

1. Receive a good local channel.
2. Enter the service mode and select the service adjustment "S07".
3. Adjust "S07" data value so that picture is centered.

Caption Position Adjustment (Horizontal)

1. Receive a good local channel.
2. Enter the service mode and select the service adjustment "S18".
3. A black text box appears on the screen. (see **Figure B**. below)
4. Adjust "S18" data value so that text box is positioned in the center of the screen.

3.58MHz Trap Adjustment

1. Receive a good local channel.
2. Enter the service mode and select the service adjustment "S16".
3. This is a two position adjustment, "00" is ON, "01" is OFF.
4. Adjust data value to "00" for normal viewing.

Sharpness, Audio Balance, Energy Save Offset, DDE Offset, OSD Setup, Tuner Setup and Option Adjustments

1. Receive a good local channel.
2. Enter the service mode and select the service adjustments "S05" for sharpness, "S17" for balance, "S20" for energy save offset, "S21" for DDE offset, "S22" for OSD setup, "S23" for tuner and "OP" for option.

- **Sharpness Adjustment**

3. Adjust data value to "24" (center of data range) for sharpness adjustment.

- **Audio Balance Adjustment**

4. Adjust data value to "20" (center of data range) for Audio balance adjustment.

- **Energy Save Offset Adjustment**

5. Adjust data value to "23".

- **DDE Offset Adjustment**

6. Adjust data value to "03".

- **OSD Setup Adjustment**

7. Adjust data value to "00".

- **Tuner Setup Adjustment**

8. Adjust data value to "00".

- **Option Adjustment**

9. Adjust data value to "02".

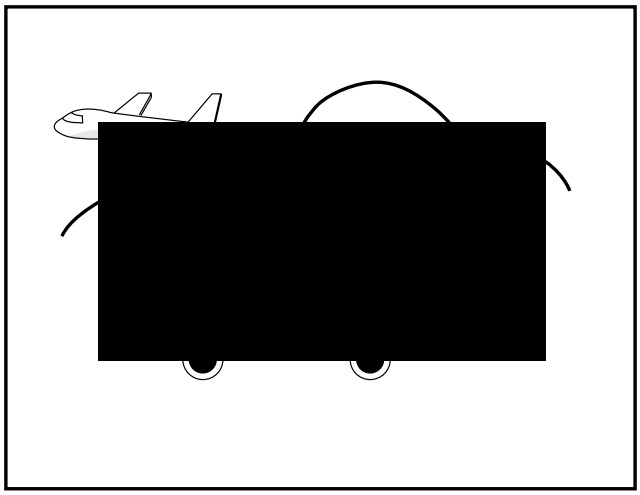
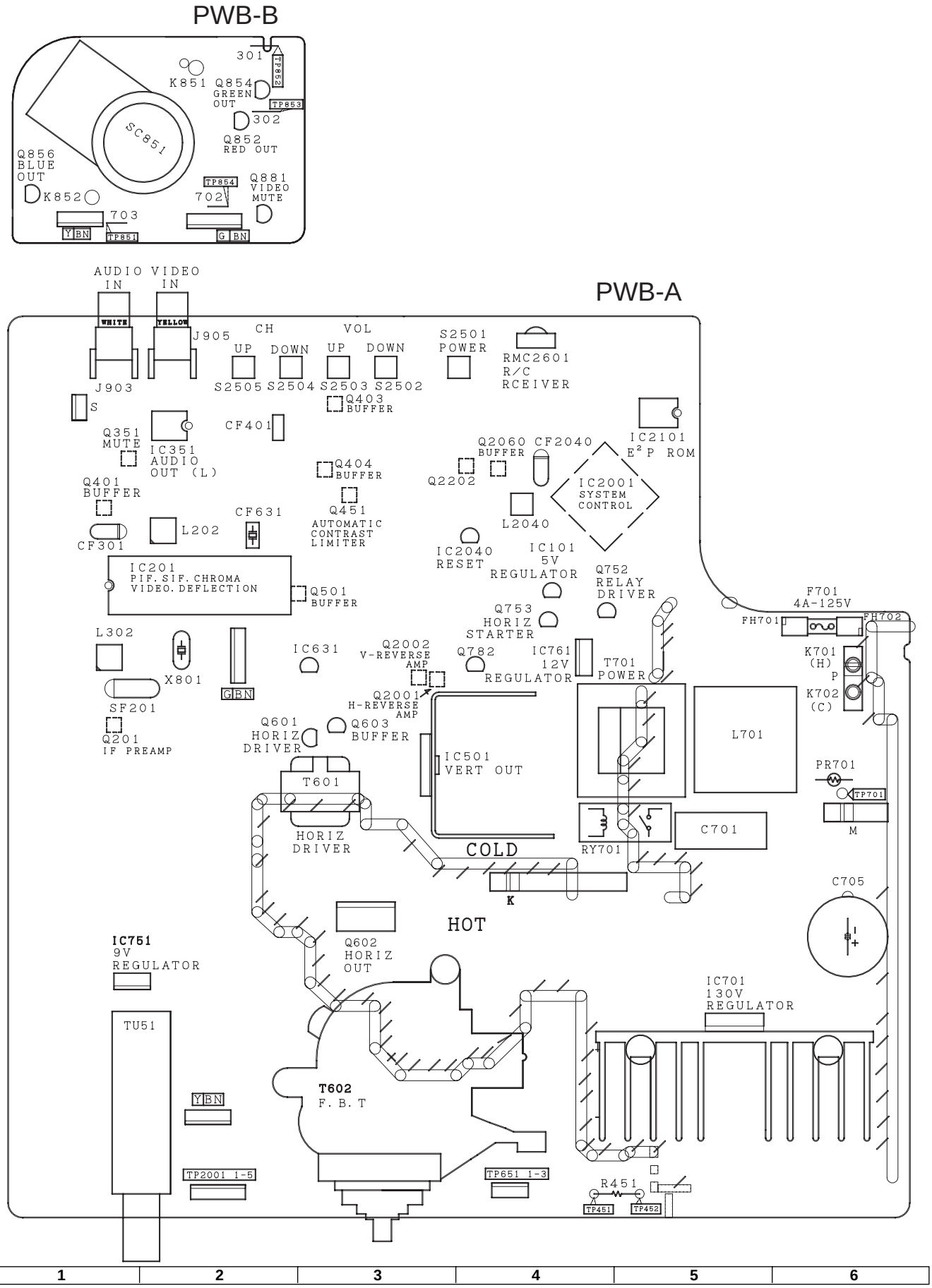
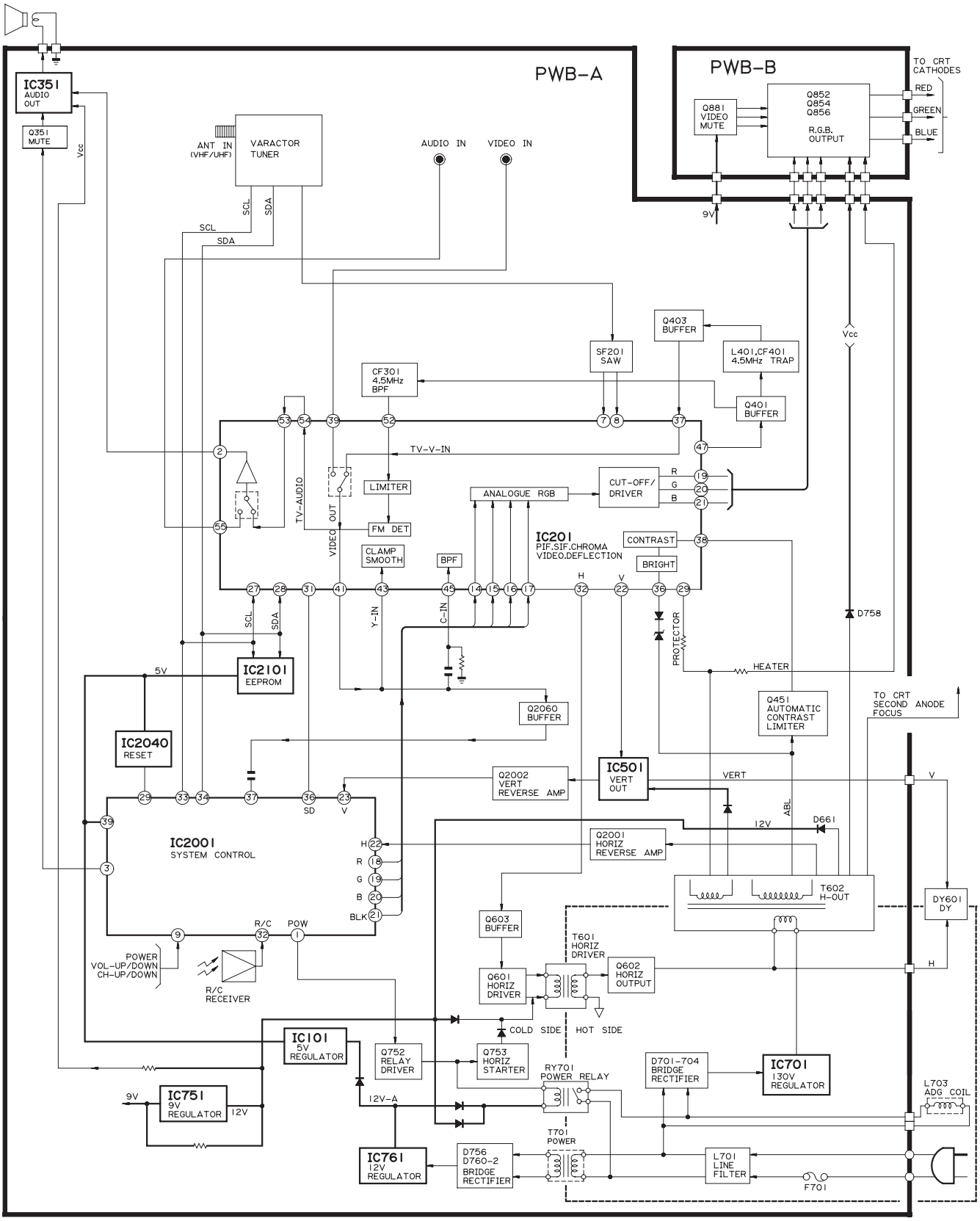


Figure B.

CHASSIS LAYOUT



BLOCK DIAGRAM



DESCRIPTION OF SCHEMATIC DIAGRAM

NOTES:

1. *The unit of resistance "ohm" is omitted. (K=kΩ=1000Ω, M=MΩ)*
2. *All resistors are 1/8 watt, unless otherwise noted.*
3. *All capacitors are μ F, unless otherwise noted. (P=pF=μμF)*
4. *(G) indicates ±2% tolerance may be used.*
5. *⏚ indicates line isolated ground.*
6. *⏚ indicates hot ground.*

VOLTAGE MEASUREMENT CONDITIONS:

1. *All DC voltages are measured with DVM connected between points indicated and chassis ground, line voltage set at 120V AC and all controls set for normal picture unless otherwise indicated.*
2. *All voltages measured with 1000μ V B & W or Color signal.*

WAVEFORM MEASUREMENT CONDITIONS:

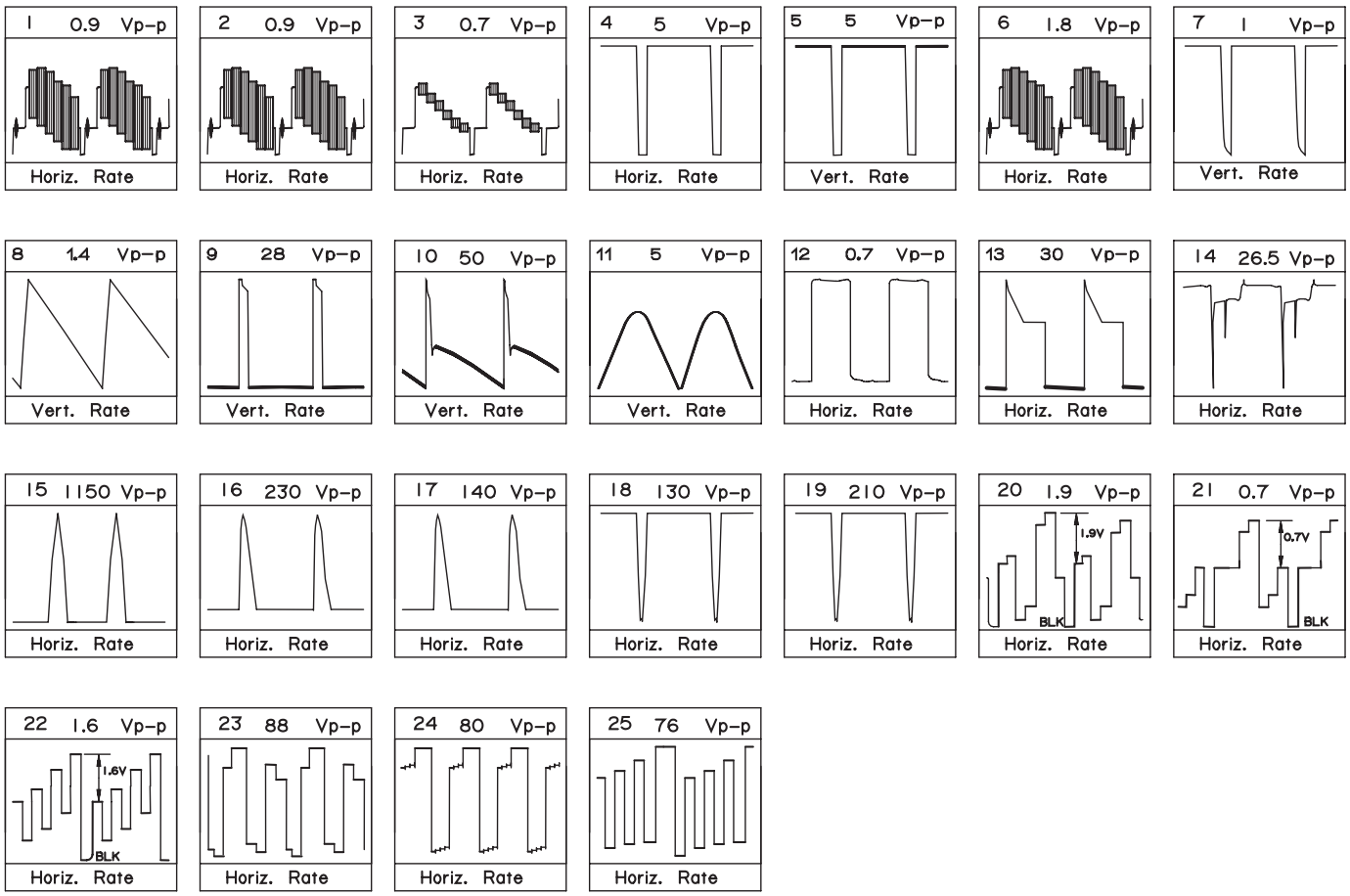
1. *Photographs taken on a standard gated color bar signal, the tint setting adjusted for proper color. The wave shapes at the red, green and blue cathodes of the picture tube depend on the tint, color level and picture control.*
2. *indicates waveform check points (See chart, waveforms are measured from point indicated to chassis ground.)*

⚠ AND SHADED ( ) COMPONENTS = SAFETY RELATED PARTS.
▲ MARK= X-RAY RELATED PARTS.

DRGANNES MARQUES ⚠ ET HACHRES ( ): PIECES RELATIVES A LA SECURITE.
MARQUE ▲ : PIECS RELATIVE AUX RAYONS X.

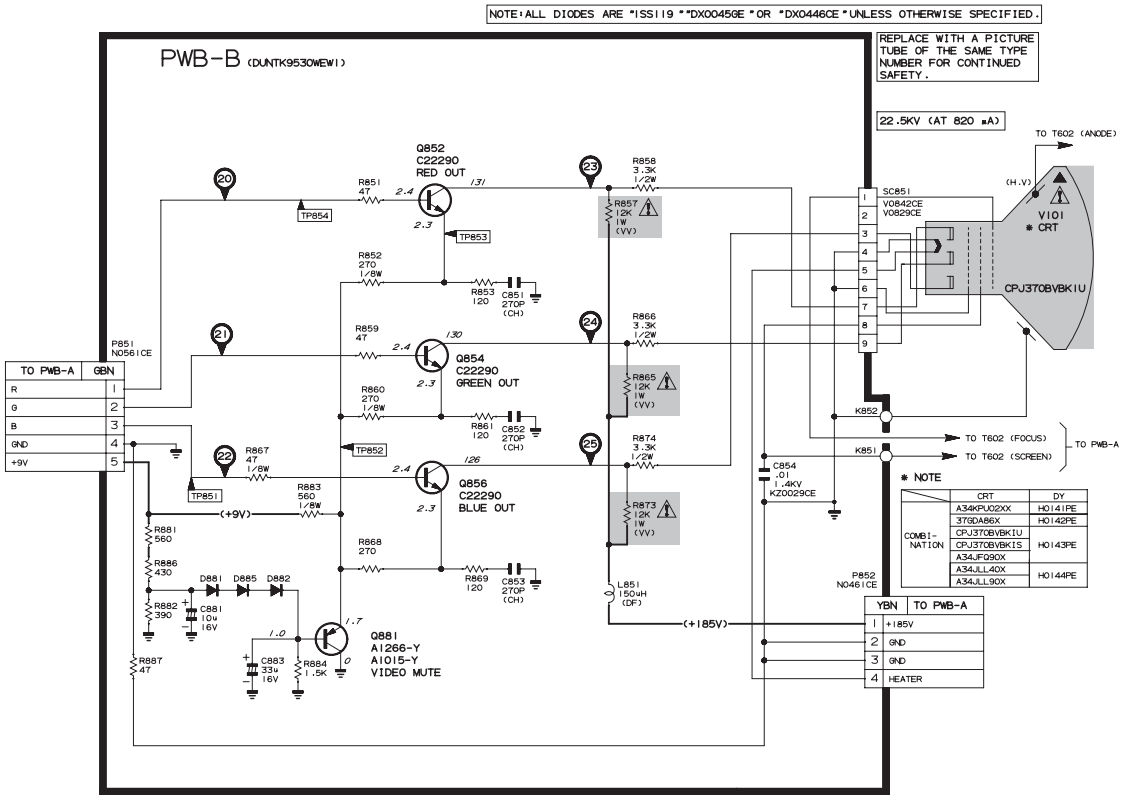
This circuit diagram is a standard one, printed circuits may be subject to change for product improvement without prior notice.

WAVEFORMS

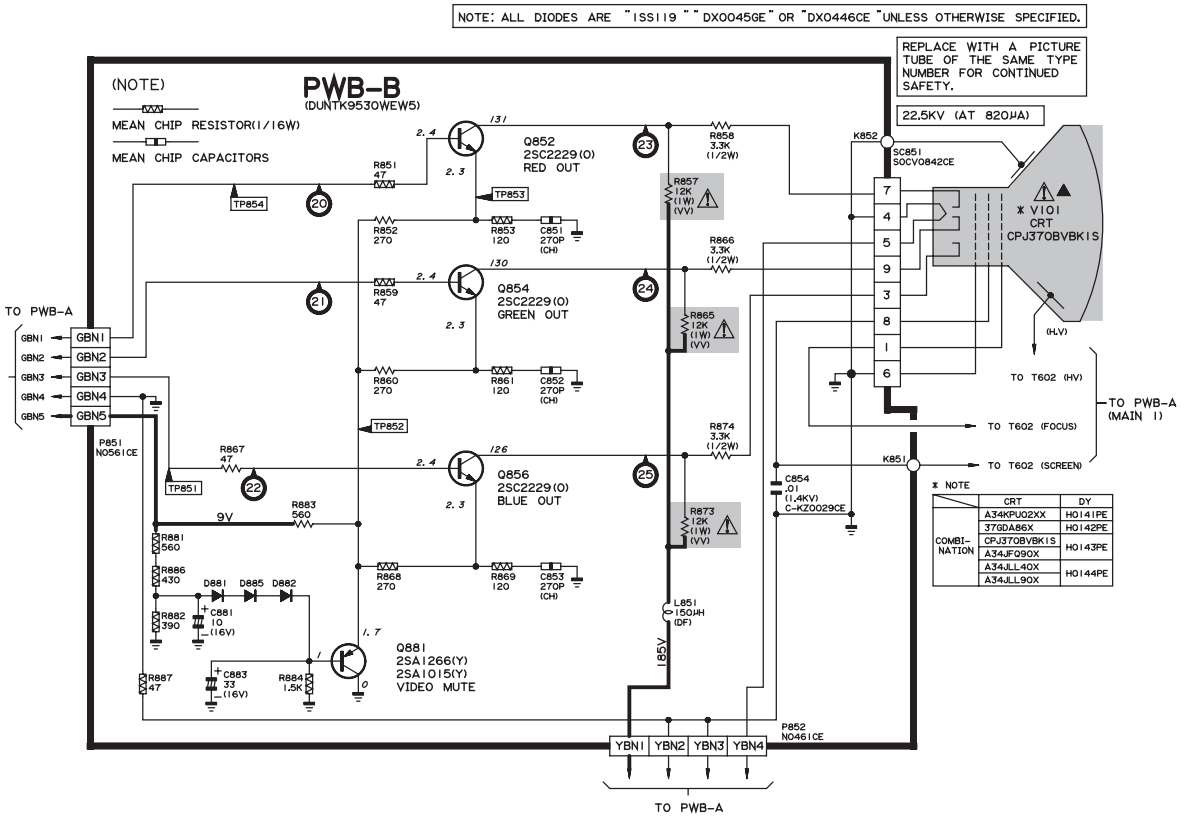


SCHEMATIC DIAGRAM: CRT Unit

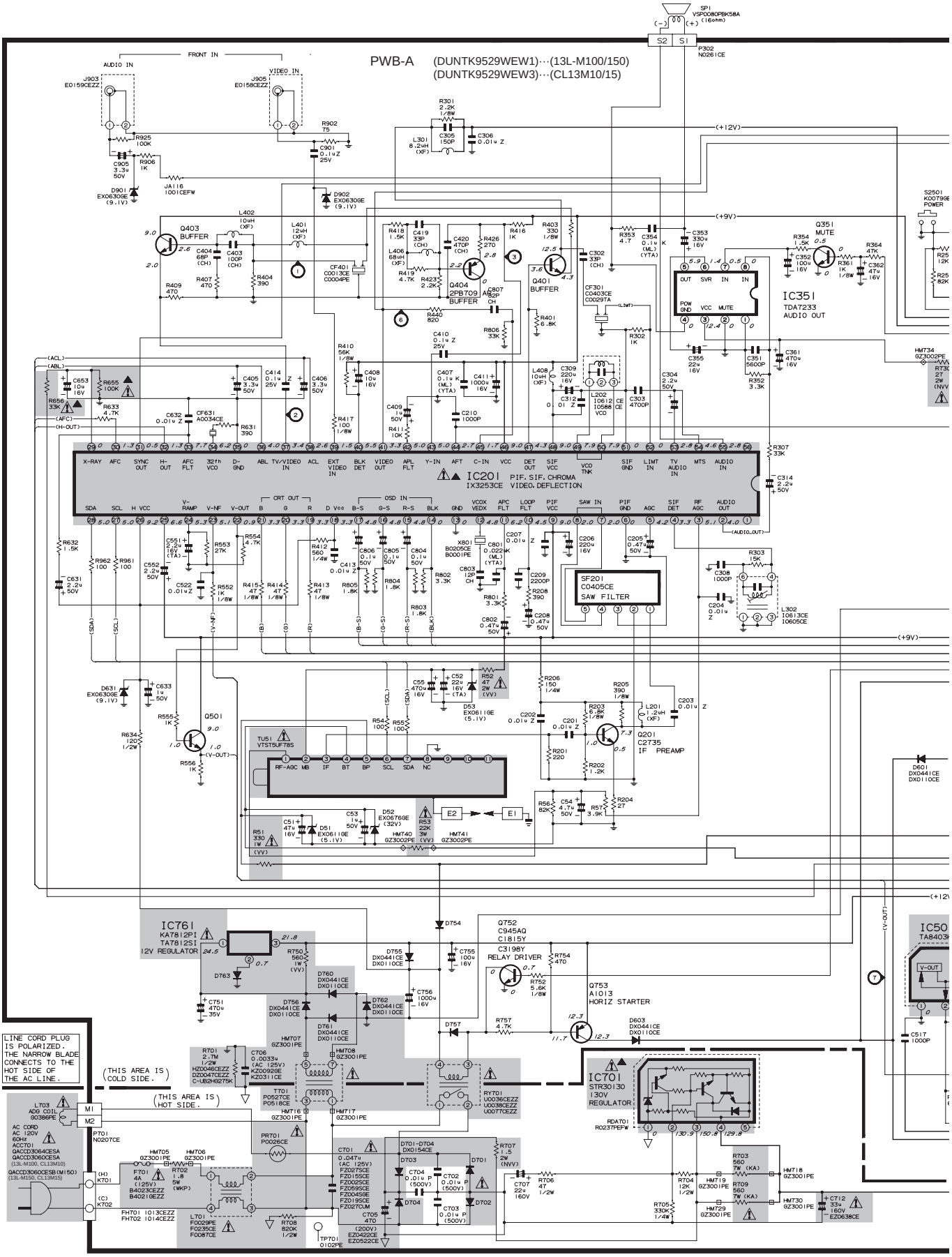
■13L-M100/150, CL13M10/15

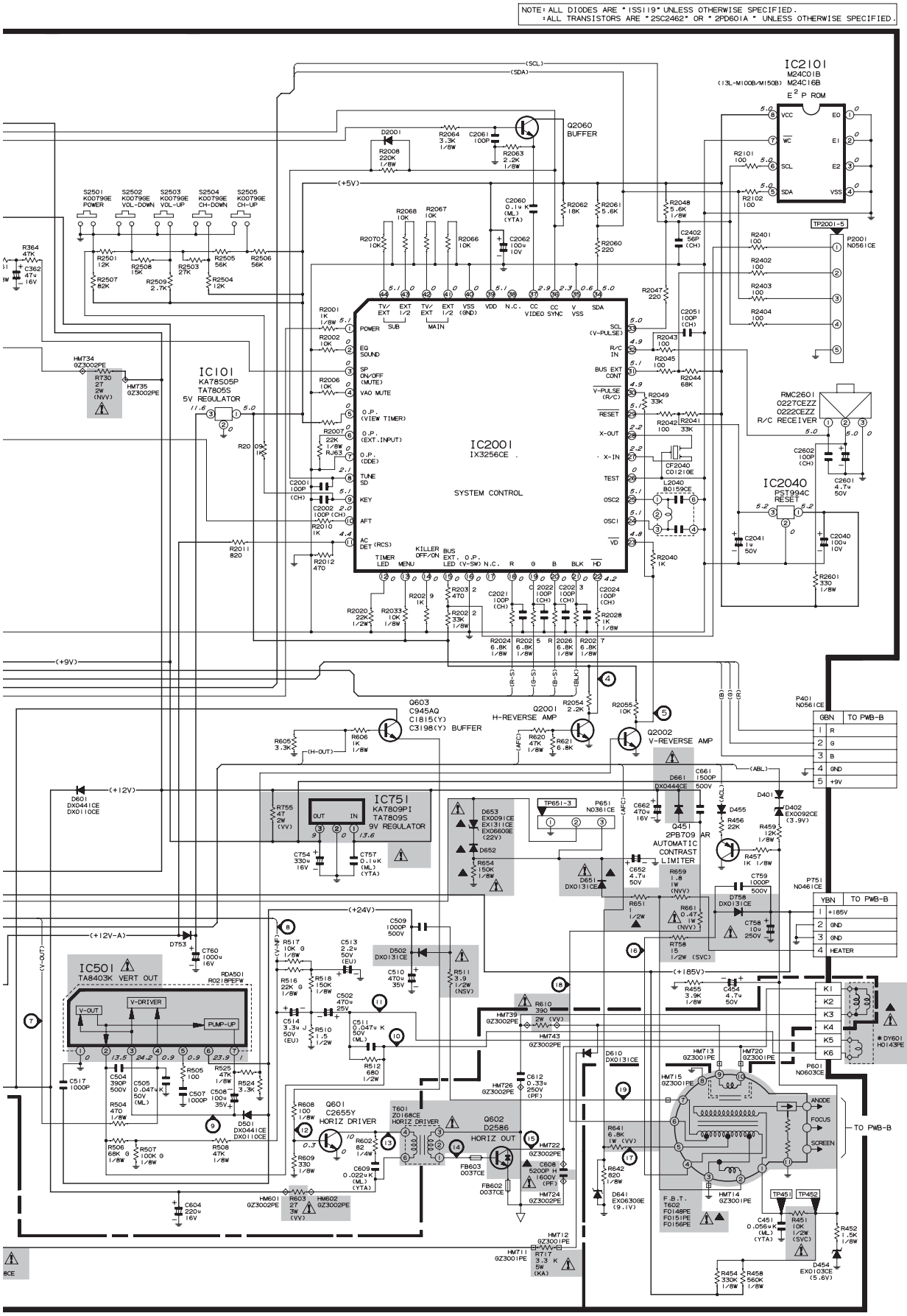


■14ML10



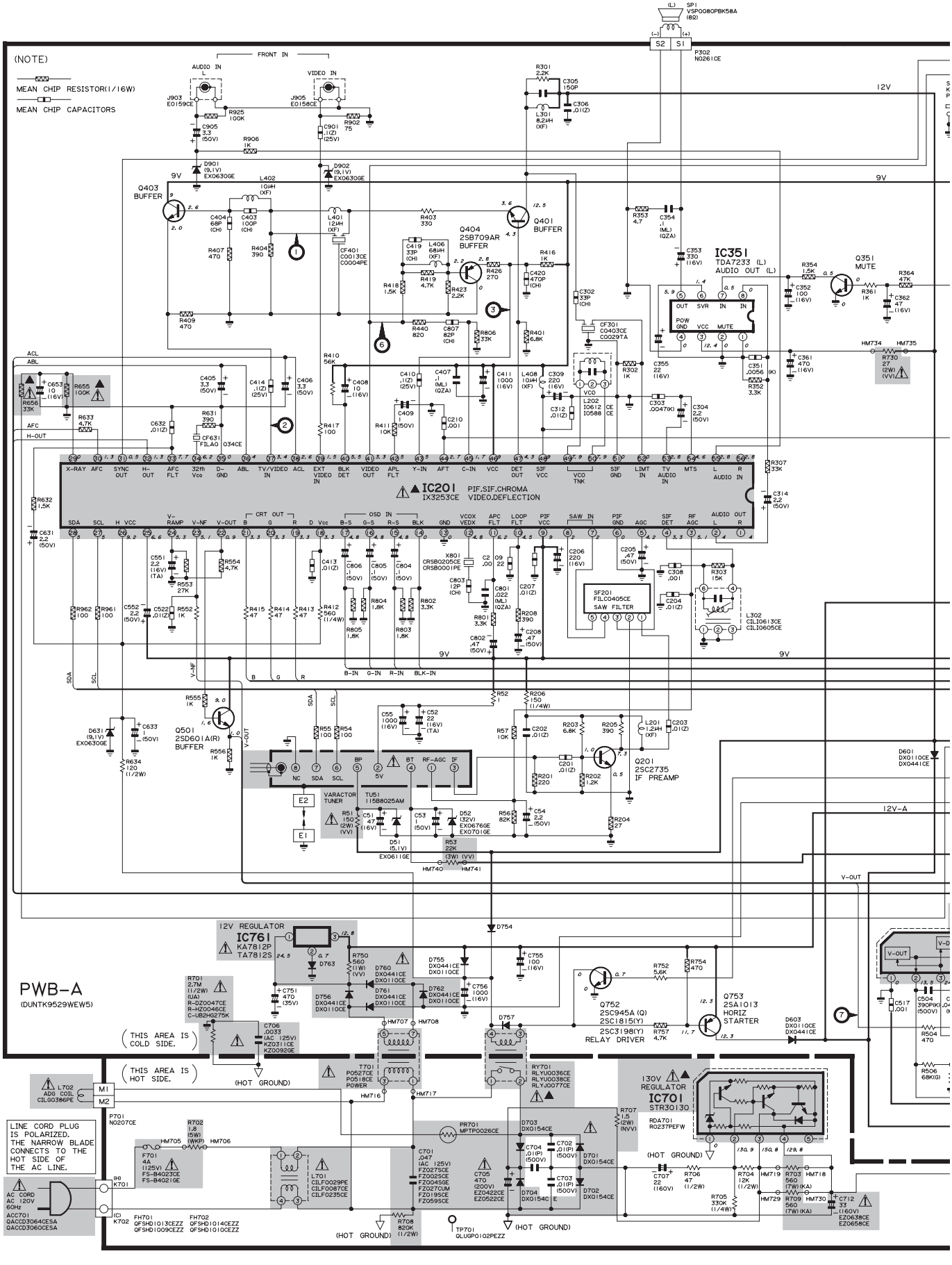
MODELS 13L-M100/150, CL13M10/15 SCHEMATIC DIAGRAM: MAIN Unit

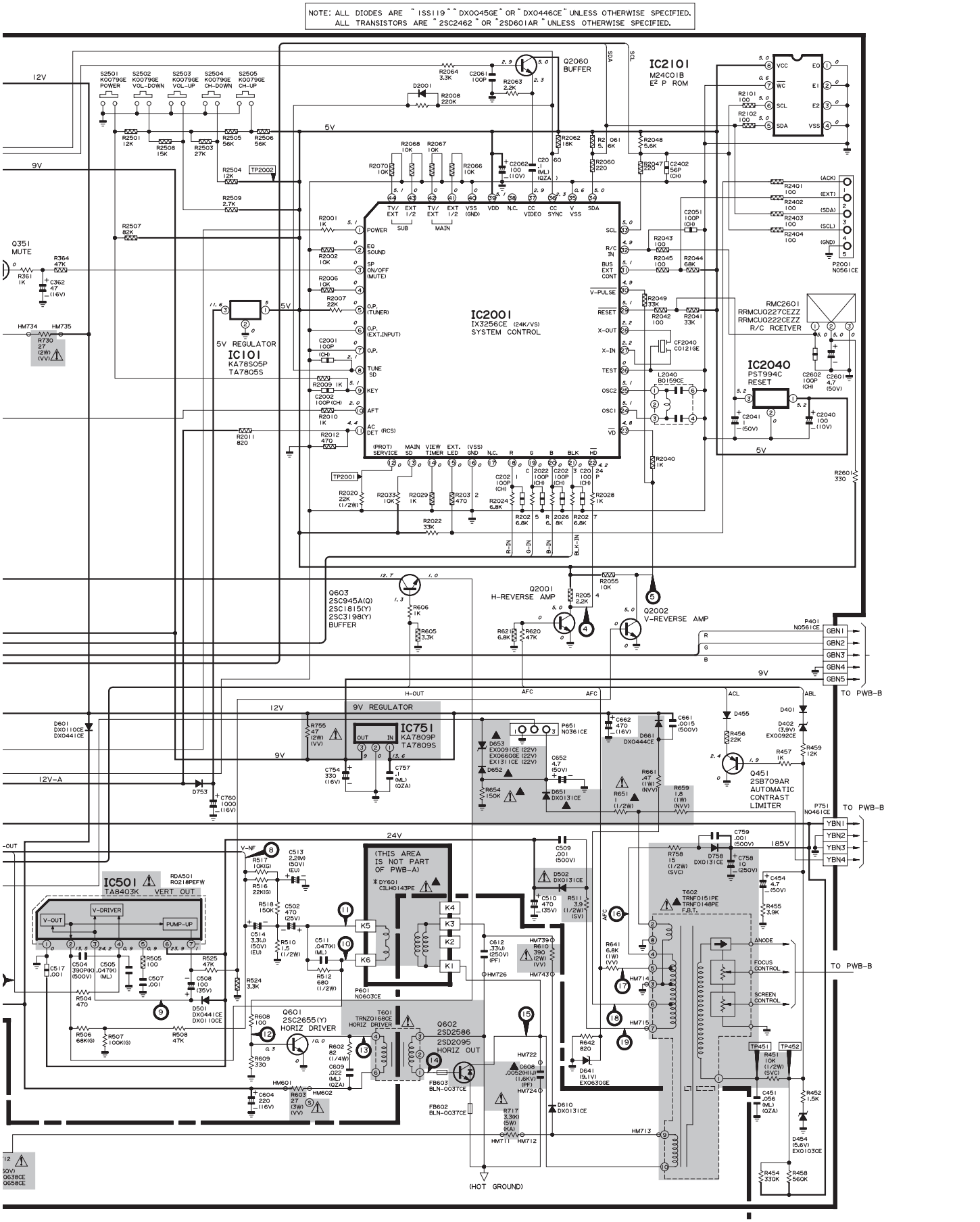




10	11	12	13	14	15	16	17	18	19

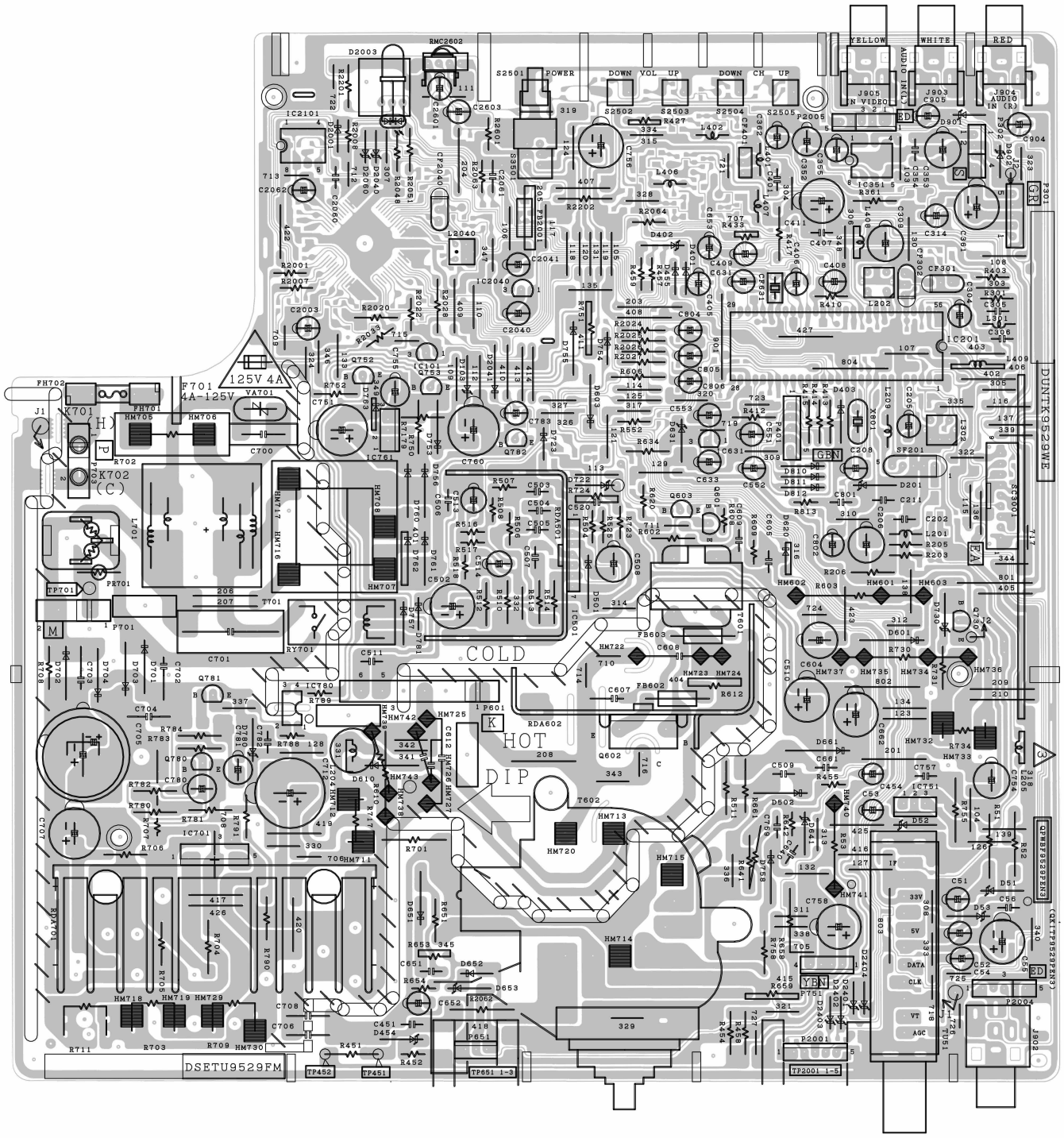
MODEL 14ML10 SCHEMATIC DIAGRAM: MAIN Unit



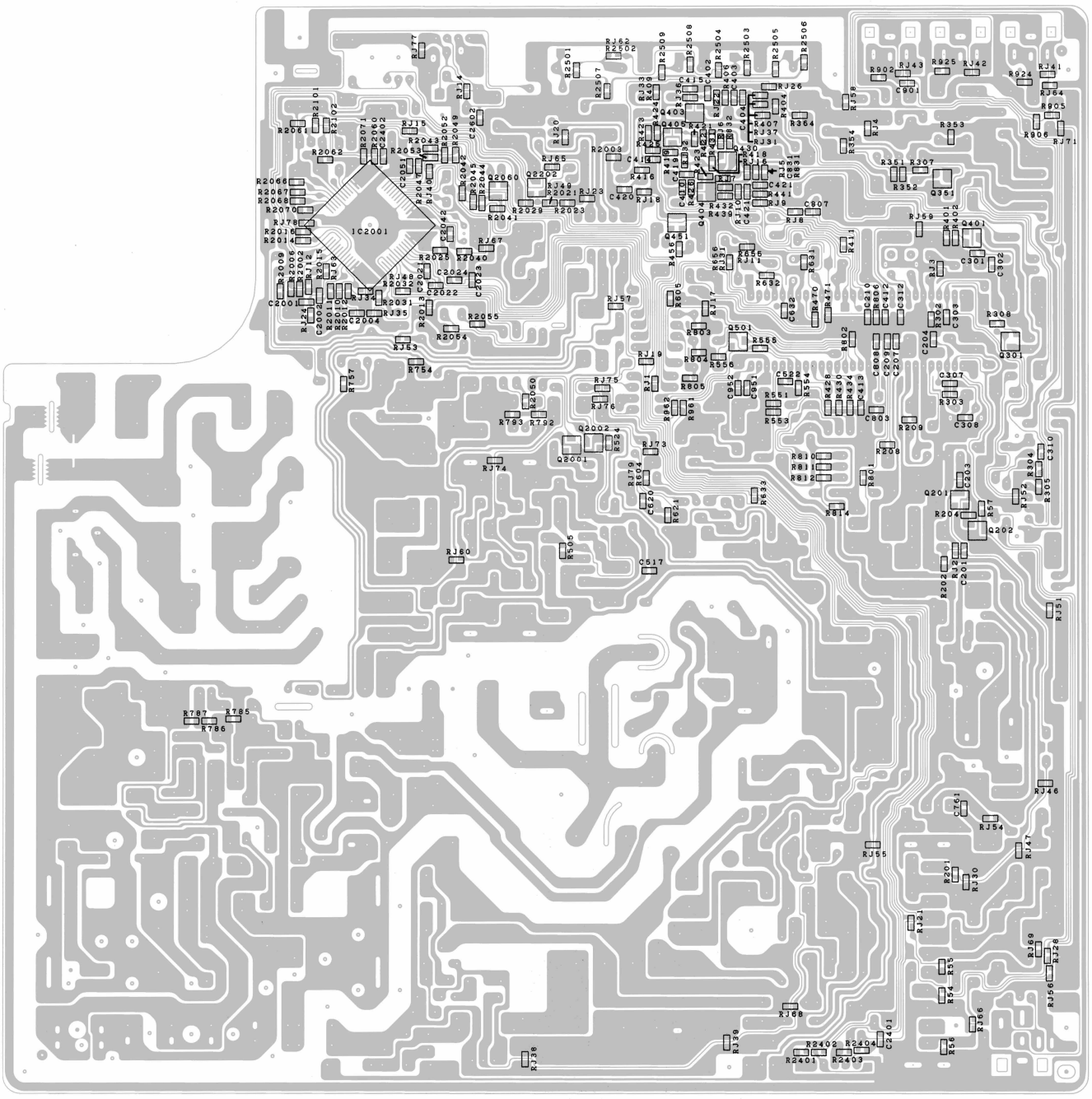


10	11	12	13	14	15	16	17	18	19

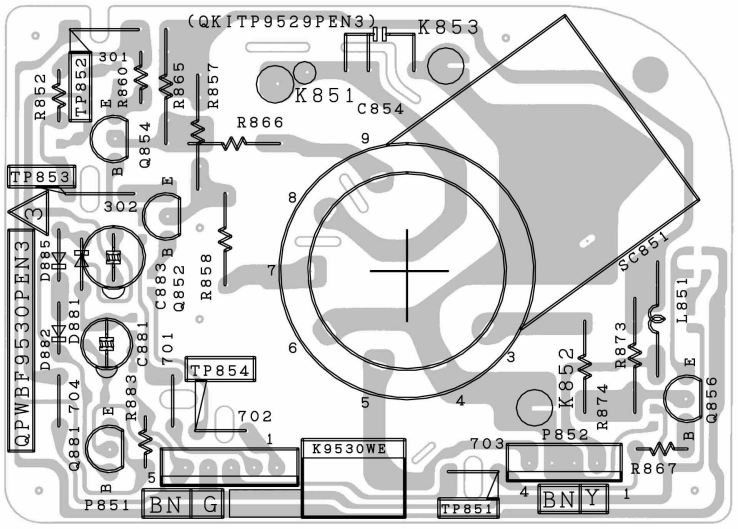
PRINTED WIRING BOARD ASSEMBLIES



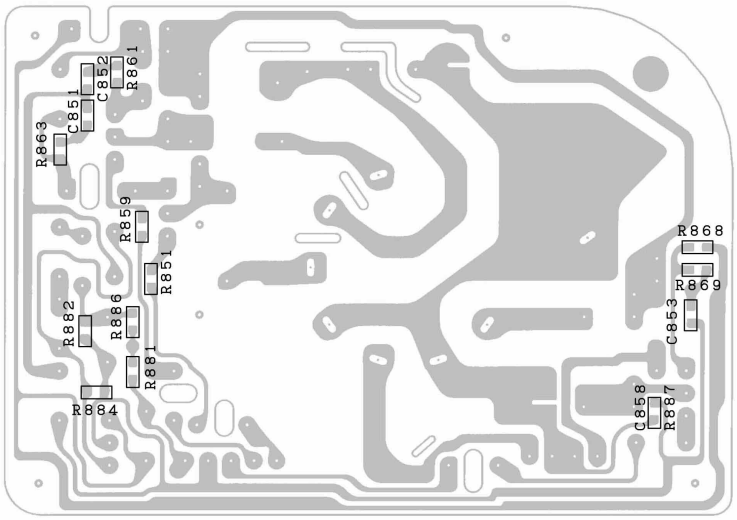
PWB-A: MAIN Unit (Wiring Side)



PWB-A: MAIN Unit (Chip Parts Side)



PWB-B: CRT Unit (Wiring Side)



PWB-B: CRT Unit (Chip Parts Side)

PARTS LIST

PARTS REPLACEMENT

Replacement parts which have these special safety characteristics identified in this manual; electrical components having such features are identified by ⚠ and shaded areas in the Replacement Parts Lists and Schematic Diagrams. The use of a substitute replacement part which dose no have the same safety characteristic as the factory recommended replacement parts shown in this service manual may create shock, fire or other hazards.

"HOW TO ORDER REPLACEMENT PARTS"

To have your order filled promptly and correctly, please furnish the following informations.

1. MODEL NUMBER
2. REF. NO.
3. PART NO.
4. DESCRIPTION

in **USA**: Contact your nearest SHARP Parts Distributor to order. For location of SHARP Parts Distributor, Please call Toll-Free; 1-800-BE-SHARP

★ MARK : SPARE PARTS-DELIVERY SECTION

▲ MARK : X- RAY RELATED PARTS

LISTE DES PIECES

CHANGE DES PIECES

Les pi`eces de rechange qui pr élelesentent ces caract éleristiques sp éleciales de s élecurit éle, sont identifi élees dans ce manuel : les pi`eces élelectriques qui pr élesentent ces particularit éles, sont rep éler élee par la marque ⚠ et sont hachur élees dans les listes de pi`eces et dans les diagrammes sch élematiques.
La substitution d'une pi`ece de rechange par une autre qui ne pr éLesente pas les m éoemes caract éLeristiques de s élecurit éle que la pi`ece recommand élee parl'usine et dans ce manuel de service, peut provoquer une éLelectrocution, un incendie ou toutautre sinistre.

"COMMENT COMMANDER LES PIECES DE RECHANGE"

Pour que votre commande soit rapidement et correctement remplie, veuillez fournir les renseignements suivants.

1. NUMERO DU MODELE
2. NO. DE REF
3. NO. DE PIECE
4. DESCRIPTION

in **CANADA**: Contact SHARP Electronics of Conada Limited Phone (416) 890-2100

★MARQUE: SECTION LIVRAISON DES PIECES DE RECHANGE

▲ MARQUE : PIECES RELATIVE AUX RAYONS X

PICTURE TUBE

Ref. No.	Part No.	★	Description	Code
▲⚠ V101	VB370BVBK1S-S	R	CRT(DY601: H0143PE)	BZ
	or			
	VB370BVBK1U-S		CRT(DY601: H0143PE)	
	or			
	VB34JFQ90X/*S		CRT(DY601: H0143PE)	
	or			
	VB34KPU02X/*S		CRT(DY601: H0141PE)	
	or			
	VB34JLL40X/*S		CRT(DY601: H0144PE)	
	or			
	VB34JLL90X/*S		CRT(DY601: H0144PE)	
	or			
	VB37GDA86X/1E		CRT(DY601: H0142PE)	
▲⚠ DY601	RCiLH0141PEZZ	R	DY(CRT: A34KPU02XX)	BA
	or			
	RCiLH0142PEZZ		DY(CRT: 37GDA86X)	
	or			
	RCiLH0143PEZZ		DY(CRT: CPJ370BVBK1U or CPJ370BVBK1S or A34JFQ90X)	
	or			
	RCiLH0144PEZZ		DY(CRT: A34JLL40X or A34JLL90X)	
⚠ L703	RCiLG0386PEZZ	R	Degaussing Coil	AK
	PMAGF3041CEZZ	J	Magnet Ass'y -Purity and Static Convergence	AG
	PSPAG0004PEZZ	R	Wedge (Gum),Yoke	AC
	QEARC1423PEZZ	R	Groundsing Strap	AG

	CRT	DY
COMBI-NATION	A34KPU02XX	H0141PE
	37GDA86X	H0142PE
	CPJ370BVBK1U	H0143PE
	CPJ370BVBK1S	
	A34JFQ90X	
	A34JLL40X	H0144PE
	A34JLL90X	

PRINTED WIRING BOARD ASSEMBLIES *(NOT REPLACEMENT ITEM)*

Ref. No.	Part No.	★	Description	Code
PWB-A	DUNTK9529WEW1	–	MAIN Unit (13L-M100/150)	—
PWB-A	DUNTK9529WEW3	–	MAIN Unit (CL13M10/15)	—
PWB-A	DUNTK9529WEW5	–	MAIN Unit (14ML10)	—
PWB-B	DUNTK9530WEW1	–	CRT Unit (13L-M100/150, CL13M10/15)	—
PWB-B	DUNTK9530WEW5	–	CRT Unit (14ML10)	—

PWB-A : DUNTK9529WEW1(13L-M100/150)
PWB-A : DUNTK9529WEW3(CL13M10/15)
MAIN UNIT

TUNER

NOTE : THE PARTS HERE SHOWN ARE SUPPLIED AS AN ASSEMBLY BUT NOT INDEPENDENTLY.

⚠ TU51	VTUVTST5UF78S	M	Tuner	AX

INTEGRATED CIRCUITS

IC101	VHiKA78S05P-1	M	KA78S05P	AD
	or			
	VHiTA7805S/-1			
▲⚠ IC201	RH-iX3253CEZZ	J	TA1268AN	AV
IC351	VHiTDA7233/-1	J	TDA7233	AF
⚠ IC501	VHiTA8403K/-1	J	TA8403K	AL
▲⚠ IC701	VHiSTR301301E	J	STR30130	AP
⚠ IC751	VHiKA7809Pi-1	R	KA7809PI	AE
	or			
	VHiTA7809S/-1			
⚠ IC761	VHiKA7812Pi-1	R	KA7812PI	AE
	or			
	VHiTA7812S/-1			
IC2001	RH-iX3256CEZZ	J	TMPA8701CMF142	AX
IC2040	VHiPST994C/-1	J	PST994C	AD
IC2101	VHiM24C01B/-1	J	M24C01-BN6	AF

TRANSISTORS

You can substitute "VS2SC2462-C-1" for "VS2PD601AR/-1".

Q201	VS2SC2735//1E	J	2SC2735	AC

Ref. No.	Part No.	★	Description	Code

PWB-A : DUNTK9529WEW1(13L-M100/150)
PWB-A : DUNTK9529WEW3(CL13M10/15)
MAIN UNIT (Continued)

Q351	VS2PD601AR/-1	J	2PD601AR	AB
Q401	VS2PD601AR/-1	J	2PD601AR	AB
Q403	VS2PD601AR/-1	J	2PD601AR	AB
Q404	VS2PB709AR/-1	J	2PB709AR	AB
Q451	VS2PB709AR/-1	J	2PB709AR	AB
Q501	VS2PD601AR/-1	J	2PD601AR	AB
Q601	VS2SC2655Y/-1	J	2SC2655Y	AE
⚠ Q602	VS2SD2586//1E	J	2SD2586	AM
Q603	VS2SC945AQ/-1 or VS2SC1815YW-1 or VS2SC3198-Y-1	J	2SC945A(Q)	AB
Q752	VS2SC945AQ/-1 or VS2SC1815YW-1 or VS2SC3198-Y-1	J	2SC945A(Q)	AB
Q753	VS2SA1013//1E	J	2SA1013	AD
Q2001	VS2PD601AR/-1	J	2PD601AR	AB
Q2002	VS2PD601AR/-1	J	2PD601AR	AB
Q2060	VS2PD601AR/-1	J	2PD601AR	AB

DIODES

D51	RH-EX0611GEZZ	J	Zener Diode, 5.1V	AA
D52	RH-EX0676GEZZ	J	Zener Diode, 32V	AA
D53	RH-EX0611GEZZ	J	Zener Diode, 5.1V	AA
D401	VHD1SS119//-1	J	Diode	AB
D402	RH-EX0092CEZZ	J	Zener Diode, 3.9V	AB
D454	RH-EX0103CEZZ	J	Zener Diode, 5.6V	AB
D455	VHD1SS119//-1	J	Diode	AB
D501	RH-DX0441CEZZ or RH-DX0110CEZZ	J	Diode	AC
⚠ D502	RH-DX0131CEZZ	J	Diode	AC
D601	RH-DX0441CEZZ or RH-DX0110CEZZ	J	Diode	AC
D603	RH-DX0441CEZZ or RH-DX0110CEZZ	J	Diode	AC
D610	RH-DX0131CEZZ	J	Diode	AC
D631	RH-EX0630GEZZ	J	Zener Diode, 9.1V	AA
D641	RH-EX0630GEZZ	J	Zener Diode, 9.1V	AA
▲⚠ D651	RH-DX0131CEZZ	J	Diode	AC
▲⚠ D652	VHD1SS119//-1	J	Diode	AB
▲⚠ D653	RH-EX0091CEZZ or RH-EX0660GEZZ or RH-EX1311CEZZ	J	Zener Diode, 22V	AB
⚠ D661	RH-DX0444CEZZ	J	Diode	AH
⚠ D701	RH-DX0154CEZZ	J	Diode	AC
⚠ D702	RH-DX0154CEZZ	J	Diode	AC
⚠ D703	RH-DX0154CEZZ	J	Diode	AC
⚠ D704	RH-DX0154CEZZ	J	Diode	AC
D753	VHD1SS119//-1	J	Diode	AB
D754	VHD1SS119//-1	J	Diode	AB
D755	RH-DX0441CEZZ or RH-DX0110CEZZ	J	Diode	AC
⚠ D756	RH-DX0441CEZZ or RH-DX0110CEZZ	J	Diode	AC
D757	VHD1SS119//-1	J	Diode	AB
⚠ D758	RH-DX0131CEZZ	J	Diode	AC
⚠ D760	RH-DX0441CEZZ or RH-DX0110CEZZ	J	Diode	AC
⚠ D761	RH-DX0441CEZZ or RH-DX0110CEZZ	J	Diode	AC
⚠ D762	RH-DX0441CEZZ or RH-DX0110CEZZ	J	Diode	AC
D763	VHD1SS119//-1	J	Diode	AB
D901	RH-EX0630GEZZ	J	Zener Diode, 9.1V	AA
D902	RH-EX0630GEZZ	J	Zener Diode, 9.1V	AA
D2001	VHD1SS119//-1	J	Diode	AB

PACKAGED CIRCUITS

⚠ PR701	RMPTP0026CEZZ	J	Packaged Circuit	AF
X801	RCRSB0205CEZZ or RCRSB0001PEZZ	R	Crystal	AF

FILTERS

CF301	RFiLC0403CEZZ or RFiLC0029TAZZ	J	Ceramic Filter	AE
CF401	RFiLC0013CEZZ or RFiLC0004PEZZ	J	Ceramic Filter	AE
CF631	RFiLA0034CEZZ	J	Ceramic Filter	AD
CF2040	RFiLC0121GEZZ	J	Ceramic Filter	AD
SF201	RFiLC0405CEZZ	J	SAW Filter	AH

COILS

L201	VP-XF1R2K0000	J	Peaking 1.2µH	AB
L202	RCiLi0612CEZZ or RCiLi0588CEZZ	J	IF Coil	AE
L301	VP-XF8R2K0000	J	Peaking 8.2µH	AB
L302	RCiLi0613CEZZ	J	VCO Coil	AE
L401	VP-XF120K0000	J	Peaking 12µH	AB
L402	VP-XF100K0000	J	Peaking 10µH	AB
L406	VP-XF680K0000	J	Peaking 68µH	AB
L408	VP-XF100K0000	J	Peaking 10µH	AB
⚠ L701	RCiLF0029PEZZ or RCiLF0087CEZZ or RCiLF0235CEZZ	R	Coil	AH
L2040	RCiLB0159CEZZ	J	Oscillation Coil	AE

TRANSFORMERS

⚠ T601	RTRNZ0168CEZZ	J	Transformer	AH
▲⚠ T602	RTRNF0148PEZZ or RTRNF0151PEZZ or RTRNF0156PEZZ	R	H-Volt Transformer	BD
⚠ T701	RTRNP0527CEZZ or RTRNP0518CEZZ	J	Power Transformer	AM

CAPACITORS

[EL.··· Electrolytic, M-Poly.··· Metalized Polypro Film]

C51	VCEA0A1CW476M	J	47	16V	EL.	AB
C52	VCSATA1CE226K	J	22	16V	Tantalum	AD
C53	VCEA0A1HW105M	J	1.0	50V	EL.	AB
C54	VCEA0A1HW475M	J	4.7	50V	EL.	AB
C55	VCEA0A1CW477M	J	470	16V	EL.	AC
C201	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C202	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C203	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C204	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C205	VCEA0A1HW474M	J	0.47	50V	EL.	AB
C206	VCEA0A1CW227M	J	220	16V	EL.	AC
C207	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C208	VCEA0A1HW474M	J	0.47	50V	EL.	AB
C209	VCKYCY1HB222K	J	2200p	50V	Ceramic	AA
C210	VCKYCY1HB102K	J	1000p	50V	Ceramic	AA
C302	VCCCCY1HH330J	J	33p	50V	Ceramic	AA
C303	VCKYCY1HB472K	J	4700p	50V	Ceramic	AA
C304	VCEA0A1HW225M	J	2.2	50V	EL.	AB

PWB-A : DUNTK9529WEW1(13L-M100/150)
PWB-A : DUNTK9529WEW3(CL13M10/15)
MAIN UNIT (Continued)

Ref. No.	Part No.	★				Description	Code
C305	VCKYPA1HB151K	J	150p	50V		Ceramic	AA
C306	VCKYPA1HF103Z	J	0.01	50V		Ceramic	AA
C308	VCKYCY1HB102K	J	1000p	50V		Ceramic	AA
C309	VCEA0A1CW227M	J	220	16V		EL.	AC
C312	VCKYCY1HF103Z	J	0.01	50V		Ceramic	AA
C314	VCEA0A1HW225M	J	2.2	50V		EL.	AB
C351	VCKYCY1HB562K	J	5600p	50V		Ceramic	AA
C352	VCEA0A1CW107M	J	100	16V		EL.	AC
C353	VCEA0A1CW337M	J	330	16V		EL.	AC
C354	VCQYTA1HM104K	J	0.1	50V		Mylar	AC
C355	VCEA0A1CW226M	J	22	16V		EL.	AB
C361	VCEA0A1CW477M	J	470	16V		EL.	AC
C362	VCEA0A1CW476M	J	47	16V		EL.	AB
C403	VCCCCY1HH101J	J	100p	50V		Ceramic	AA
C404	VCCCCY1HH680J	J	68p	50V		Ceramic	AA
C405	VCEA0A1HW335M	J	3.3	50V		EL.	AB
C406	VCEA0A1HW335M	J	3.3	50V		EL.	AB
C407	VCQYTA1HM104K	J	0.1	50V		Mylar	AC
C408	VCEA0A1CW106M	J	10	16V		EL.	AB
C409	VCEA0A1HW105M	J	1.0	50V		EL.	AB
C410	VCKYCY1EF104Z	J	0.1	25V		Ceramic	AA
C411	VCEAGA1CW108M	J	1000	16V		EL.	AD
C413	VCKYCY1HF103Z	J	0.01	50V		Ceramic	AA
C414	VCKYCY1EF104Z	J	0.1	25V		Ceramic	AA
C419	VCCCCY1HH330J	J	33p	50V		Ceramic	AA
C420	VCCCCY1HH471J	J	470p	50V		Ceramic	AA
C451	VCQYTA1HM563K	J	0.056	50V		Mylar	AB
C454	VCEA0A1HW475M	J	4.7	50V		EL.	AB
C502	VCEA0A1EW477M	J	470	25V		EL.	AD
C504	VCKYPA2HB391K	J	390p	500V		Ceramic	AA
C505	VCQYTA1HM473K	J	0.047	50V		Mylar	AB
C507	VCKYPA1HB102K	J	1000p	50V		Ceramic	AA
C508	VCEAGA1VW107M	J	100	35V		EL.	AC
C509	VCKYPA2HB102K	J	1000p	500V		Ceramic	AA
C510	VCEAGA1VW477M	J	470	35V		EL.	AD
C511	VCQYTA1HM473K	J	0.047	50V		Mylar	AB
C513	VCEACA1HC225M	J	2.2	50V		EL.	AC
C514	VCEACA1HC335J	J	3.3	50V		EL.	AC
C517	VCKYCY1HB102K	J	1000p	50V		Ceramic	AA
C522	VCKYCY1HF103Z	J	0.01	50V		Ceramic	AA
C551	VCSATA1CE225K	J	2.2	16V		Tantalum.	AB
C552	VCEA0A1HW225M	J	2.2	50V		EL.	AB
C604	VCEA0A1CW227M	J	220	16V		EL.	AC
▲⚠ C608	VCFPPD3CA522H	J	5200p	1.6kV		M-Poly.	AE
C609	VCQYTA1HM223K	J	0.022	50V		Mylar	AB
C612	VCFPPB2EB334J	J	0.33	250V		M-Poly.	AF
C631	VCEA0A1HW225M	J	2.2	50V		EL.	AB
C632	VCKYCY1HF103Z	J	0.01	50V		Ceramic	AA
C633	VCEA0A1HW105M	J	1.0	50V		EL.	AB
C652	VCEA0A1HW475M	J	4.7	50V		EL.	AB
C653	VCEA0A1CW106M	J	10	16V		EL.	AB
C661	VCKYPA2HB152K	J	1500p	500V		Ceramic	AA
C662	VCEA0A1CW477M	J	470	16V		EL.	AC
⚠ C701	RC-FZ015SCEZZ or RC-FZ002SCEZZ or RC-FZ004SGEZZ or RC-FZ027CUMZZ or RC-FZ027SCEZZ or RC-FZ019SCEZZ or RC-FZ059SCEZZ	J	0.047	AC125V		Plastic	AE
C702	VCKYPB2HE103P	J	0.01	500V		Ceramic	AB
C703	VCKYPB2HE103P	J	0.01	500V		Ceramic	AB
C704	VCKYPB2HE103P	J	0.01	500V		Ceramic	AB
⚠ C705	RC-EZ0422CEZZ or RC-EZ0522CEZZ	J	470	200V		EL.	AN
⚠ C706	RC-KZ0092GEZZ or RC-KZ0311CEZZ	J	0.0033	AC125V		Ceramic	AC
C707	VCEAGA2CW226M	J	22	160V		EL.	AD
⚠ C712	RC-EZ0638CEZZ	J	33	160V		EL.	AG
C751	VCEA0A1VW477M	J	470	35V		EL.	AB
C754	VCEA0A1CW337M	J	330	16V		EL.	AC
C755	VCEA0A1CW107M	J	100	16V		EL.	AC
C756	VCEAGA1CW108M	J	1000	16V		EL.	AD
C757	VCQYTA1HM104K	J	0.1	50V		Mylar	AC
⚠ C758	VCEAGA2EW106M	J	10	250V		EL.	AC
C759	VCKYPA2HB102K	J	1000p	500V		Ceramic	AA
C760	VCEAGA1CW108M	J	1000	16V		EL.	AD
C801	VCQYTA1HM223K	J	0.022	50V		Mylar	AB
C802	VCEA0A1HW474M	J	0.47	50V		EL.	AB
C803	VCCCCY1HH120J	J	12p	50V		Ceramic	AA
C804	VCEA0A1HW104M	J	0.1	50V		EL.	AB
C805	VCEA0A1HW104M	J	0.1	50V		EL.	AB
C806	VCEA0A1HW104M	J	0.1	50V		EL.	AB
C807	VCCCCY1HH820J	J	82p	50V		Ceramic	AA
C901	VCKYCY1EF104Z	J	0.1	25V		Ceramic	AA
C905	VCEA0A1HW335M	J	3.3	50V		EL.	AB
C2001	VCCCCY1HH101J	J	100p	50V		Ceramic	AA
C2002	VCCCCY1HH101J	J	100p	50V		Ceramic	AA
C2021	VCCCCY1HH101J	J	100p	50V		Ceramic	AA
C2022	VCCCCY1HH101J	J	100p	50V		Ceramic	AA
C2023	VCCCCY1HH101J	J	100p	50V		Ceramic	AA
C2024	VCCCCY1HH101J	J	100p	50V		Ceramic	AA
C2040	VCEA0A1AW107M	J	100	10V		EL.	AB
C2041	VCEA0A1HW105M	J	1.0	50V		EL.	AB
C2051	VCCCCY1HH101J	J	100p	50V		Ceramic	AA
C2060	VCQYTA1HM104K	J	0.1	50V		Mylar	AC
C2061	VCKYD41HB101K	J	100p	50V		Ceramic	AA
C2062	VCEA0A1AW107M	J	100	10V		EL.	AB
C2402	VCCCCY1HH560J	J	56p	50V		Ceramic	AA
C2601	VCEA0A1HW475M	J	4.7	50V		EL.	AB
C2602	VCCCCY1HH101J	J	100p	50V		Ceramic	AA

RESISTORS

[M-Ox.··· Metal Oxide, M-Film ··· Metal Film]

RJ1	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ3	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ5	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ6	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ7	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ9	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ10	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ15	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ17	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ18	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ19	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ20	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ21	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ23	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ24	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ26	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ31	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ32	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ35	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ39	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ40	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ46	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ49	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ52	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ54	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ55	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ57	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ59	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ62	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ63	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ66	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ67	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ68	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ69	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ71	VRN-MD2AL000J	J	0	1/10W	M-Film	AA

PWB-A : DUNTK9529WEW1(13L-M100/150)
PWB-A : DUNTK9529WEW3(CL13M10/15)
MAIN UNIT (Continued)

Ref. No.	Part No.	★			Description	Code
RJ75	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ77	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ78	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ79	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
⚠ R51	VRS-VV3AB331J	J	330	1W	M-Ox.	AA
⚠ R52	VRS-VV3DB470J	J	47	2W	M-Ox.	AA
⚠ R53	VRS-VV3LB223J	J	22k	3W	M-Ox.	AB
R54	VRN-MD2AL101J	J	100	1/10W	M-Film	AA
R55	VRN-MD2AL101J	J	100	1/10W	M-Film	AA
R56	VRN-MD2AL823J	J	82k	1/10W	M-Film	AA
R57	VRN-MD2AL392J	J	3.9k	1/10W	M-Film	AA
R201	VRN-MD2AL221J	J	220	1/10W	M-Film	AA
R202	VRN-MD2AL122J	J	1.2k	1/10W	M-Film	AA
R203	VRD-RA2BE682J	J	6.8k	1/8W	Carbon	AA
R204	VRN-MD2AL270J	J	27	1/10W	M-Film	AA
R205	VRD-RA2BE391J	J	390	1/8W	Carbon	AA
R206	VRD-RA2EE151J	J	150	1/4W	Carbon	AA
R208	VRN-MD2AL391J	J	390	1/10W	M-Film	AA
R301	VRD-RA2BE222J	J	2.2k	1/8W	Carbon	AA
R302	VRN-MD2AL102J	J	1.0k	1/10W	M-Film	AA
R303	VRN-MD2AL153J	J	15k	1/10W	M-Film	AA
R307	VRN-MD2AL333J	J	33k	1/10W	M-Film	AA
R352	VRN-MD2AL332J	J	3.3k	1/10W	M-Film	AA
R353	VRN-MD2AL4R7J	J	4.7	1/10W	M-Film	AA
R354	VRN-MD2AL152J	J	1.5k	1/10W	M-Film	AA
R361	VRD-RA2BE102J	J	1.0k	1/8W	Carbon	AA
R364	VRN-MD2AL473J	J	47k	1/10W	M-Film	AA
R401	VRN-MD2AL682J	J	6.8k	1/10W	M-Film	AA
R403	VRD-RA2BE331J	J	330	1/8W	Carbon	AA
R404	VRN-MD2AL391J	J	390	1/10W	M-Film	AA
R407	VRN-MD2AL471J	J	470	1/10W	M-Film	AA
R409	VRN-MD2AL471J	J	470	1/10W	M-Film	AA
R410	VRD-RA2BE563J	J	56k	1/8W	Carbon	AA
R411	VRN-MD2AL103J	J	10k	1/10W	M-Film	AA
R412	VRD-RA2EE561J	J	560	1/4W	Carbon	AA
R413	VRD-RA2BE470J	J	47	1/8W	Carbon	AA
R414	VRD-RA2BE470J	J	47	1/8W	Carbon	AA
R415	VRD-RA2BE470J	J	47	1/8W	Carbon	AA
R416	VRN-MD2AL102J	J	1.0k	1/10W	M-Film	AA
R417	VRD-RA2BE101J	J	100	1/8W	Carbon	AB
R418	VRN-MD2AL152J	J	1.5k	1/10W	M-Film	AA
R419	VRN-MD2AL472J	J	4.7k	1/10W	M-Film	AA
R423	VRN-MD2AL222J	J	2.2k	1/10W	M-Film	AA
R426	VRN-MD2AL271J	J	270	1/10W	M-Film	AA
R440	VRN-MD2AL821J	J	820	1/10W	M-Film	AA
⚠ R451	VRS-SV2HC103J	J	10k	1/2W	M-Ox.	AA
R452	VRD-RA2BE152J	J	1.5k	1/8W	Carbon	AA
R454	VRD-RA2BE334J	J	330k	1/8W	Carbon	AA
R455	VRD-RA2BE392J	J	3.9k	1/8W	Carbon	AA
R456	VRN-MD2AL223J	J	22k	1/10W	M-Film	AA
R457	VRD-RA2BE102J	J	1.0k	1/8W	Carbon	AA
R458	VRD-RA2BE564J	J	560k	1/8W	Carbon	AA
R459	VRD-RA2BE123J	J	12k	1/8W	Carbon	AA
R504	VRD-RA2BE471J	J	470	1/8W	Carbon	AA
R505	VRN-MD2AL101J	J	100	1/10W	M-Film	AA
R506	VRD-RA2BE683G	J	68k	1/8W	Carbon	AA
R507	VRD-RA2BE104G	J	100k	1/8W	Carbon	AA
R508	VRD-RA2BE473J	J	47k	1/8W	Carbon	AA
R510	VRD-RM2HD1R5J	J	1.5	1/2W	Carbon	AA
⚠ R511	VRN-SV2HB3R9J	J	3.9	1/2W	M-Film	AB
R512	VRD-RM2HD681J	J	680	1/2W	Carbon	AA
R516	VRD-RA2BE223G	J	22k	1/8W	Carbon	AA
R517	VRD-RA2BE103G	J	10k	1/8W	Carbon	AA
R518	VRD-RA2BE154J	J	150k	1/8W	Carbon	AA
R524	VRN-MD2AL332J	J	3.3k	1/10W	M-Film	AA
R525	VRD-RA2BE473J	J	47k	1/8W	Carbon	AA
R552	VRD-RA2BE102J	J	1.0k	1/8W	Carbon	AA
R553	VRN-MD2AL273J	J	27k	1/10W	M-Film	AA
R554	VRN-MD2AL472J	J	4.7k	1/10W	M-Film	AA
R555	VRN-MD2AL102J	J	1.0k	1/10W	M-Film	AA
R556	VRN-MD2AL102J	J	1.0k	1/10W	M-Film	AA
R602	VRD-RA2EE820J	J	82	1/4W	Carbon	AA
⚠ R603	VRS-VV3LB270J	J	27	3W	M-Ox.	AB
R605	VRN-MD2AL332J	J	3.3k	1/10W	M-Film	AA
R606	VRD-RA2BE102J	J	1.0k	1/8W	Carbon	AA
R608	VRD-RA2BE101J	J	100	1/8W	Carbon	AB
R609	VRD-RA2BE331J	J	330	1/8W	Carbon	AA
⚠ R610	VRS-VV3DB391J	J	390	2W	M-Ox.	AA
R620	VRD-RA2BE473J	J	47k	1/8W	Carbon	AA
R621	VRN-MD2AL682J	J	6.8k	1/10W	M-Film	AA
R631	VRN-MD2AL391J	J	390	1/10W	M-Film	AA
R632	VRN-MD2AL152J	J	1.5k	1/10W	M-Film	AA
R633	VRN-MD2AL472J	J	4.7k	1/10W	M-Film	AA
R634	VRD-RM2HD121J	J	120	1/2W	Carbon	AA
⚠ R641	VRS-VV3AB682J	J	6.8k	1W	M-Ox.	AA
R642	VRD-RA2BE821J	J	820	1/8W	Carbon	AA
▲⚠ R651	VRD-RM2HD1R0J	J	1.0	1/2W	Carbon	AA
▲⚠ R654	VRD-RA2BE154J	J	150k	1/8W	Carbon	AA
▲⚠ R655	VRN-MD2AL104J	J	100k	1/10W	M-Film	AA
▲⚠ R656	VRN-MD2AL333J	J	33k	1/10W	M-Film	AA
⚠ R659	VRN-VV3AB1R8J	J	1.8	1W	M-Film	AA
⚠ R661	VRN-VV3ABR47J	J	0.47	1W	M-Film	AA
⚠ R701	RR-HZ0046CEZZ or RR-DZ0047CEZZ or VRC-UB2HG275K	J	2.7M	1/2W	Solid	AD
⚠ R702	VRW-KP3HC1R8K	J	1.8	5W	Cement	AC
⚠ R703	VRS-KA3NG561J	J	560	7W	M-Ox.	AF
R704	VRD-RM2HD123J	J	12k	1/2W	Carbon	AA
R705	VRD-RA2EE334J	J	330k	1/4W	Carbon	AA
R706	VRD-RM2HD470J	J	47	1/2W	Carbon	AA
⚠ R707	VRN-VV3DB1R5J	J	1.5	2W	M-Film	AB
⚠ R708	VRD-RM2HD824J	J	820k	1/2W	Carbon	AA
⚠ R709	VRS-KA3NG561J	J	560	7W	M-Ox.	AF
⚠ R717	VRS-KA3HG3R3K	J	3.3	5W	M-Ox.	AD
⚠ R730	VRS-VV3DB270J	J	27	2W	M-Ox.	AA
⚠ R750	VRS-VV3AB561J	J	560	1W	M-Ox.	AA
R752	VRD-RA2BE562J	J	5.6k	1/8W	Carbon	AA
R754	VRN-MD2AL471J	J	470	1/10W	M-Film	AA
⚠ R755	VRS-VV3DB470J	J	47	2W	M-Ox.	AA
R757	VRN-MD2AL472J	J	4.7k	1/10W	M-Film	AA
⚠ R758	VRS-SV2HC150J	J	15	1/2W	M-Ox.	AA
R801	VRN-MD2AL332J	J	3.3k	1/10W	M-Film	AA
R802	VRN-MD2AL332J	J	3.3k	1/10W	M-Film	AA
R803	VRN-MD2AL182J	J	1.8k	1/10W	M-Film	AA
R804	VRN-MD2AL182J	J	1.8k	1/10W	M-Film	AA
R805	VRN-MD2AL182J	J	1.8k	1/10W	M-Film	AA
R806	VRN-MD2AL333J	J	33k	1/10W	M-Film	AA
R902	VRN-MD2AL750J	J	75	1/10W	M-Film	AA
R906	VRN-MD2AL102J	J	1.0k	1/10W	M-Film	AA
R925	VRN-MD2AL104J	J	100k	1/10W	M-Film	AA
R961	VRN-MD2AL101J	J	100	1/10W	M-Film	AA
R962	VRN-MD2AL101J	J	100	1/10W	M-Film	AA
R2001	VRD-RA2BE102J	J	1.0k	1/8W	Carbon	AA
R2002	VRN-MD2AL103J	J	10k	1/10W	M-Film	AA
R2006	VRN-MD2AL103J	J	10k	1/10W	M-Film	AA
R2007	VRD-RA2BE223J	J	22k	1/8W	Carbon	AA
R2008	VRD-RA2BE224J	J	220k	1/8W	Carbon	AA
R2009	VRN-MD2AL102J	J	1.0k	1/10W	M-Film	AA
R2010	VRN-MD2AL102J	J	1.0k	1/10W	M-Film	AA
R2011	VRN-MD2AL821J	J	820	1/10W	M-Film	AA
R2012	VRN-MD2AL471J	J	470	1/10W	M-Film	AA
R2020	VRD-RM2HD223J	J	22k	1/2W	Carbon	AA
R2022	VRD-RA2BE333J	J	33k	1/8W	Carbon	AA
R2024	VRD-RA2BE682J	J	6.8k	1/8W	Carbon	AA
R2025	VRD-RA2BE682J	J	6.8k	1/8W	Carbon	AA
R2026	VRD-RA2BE682J	J	6.8k	1/8W	Carbon	AA
R2027	VRD-RA2BE682J	J	6.8k	1/8W	Carbon	AA
R2028	VRD-RA2BE102J	J	1.0k	1/8W	Carbon	AA
R2029	VRN-MD2AL102J	J	1.0k	1/10W	M-Film	AA
R2032	VRN-MD2AL471J	J	470	1/10W	M-Film	AA
R2033	VRD-RA2BE103J	J	10k	1/8W	Carbon	AA
R2040	VRN-MD2AL102J	J	1.0k	1/10W	M-Film	AA
R2041	VRN-MD2AL333J	J	33k	1/10W	M-Film	AA
R2042	VRN-MD2AL101J	J	100	1/10W	M-Film	AA
R2043	VRN-MD2AL101J	J	100	1/10W	M-Film	AA
R2044	VRN-MD2AL683J	J	68k	1/10W	M-Film	AA

Ref. No.	Part No.	★	Description	Code

PWB-A : DUNTK9529WEW1(13L-M100/150)
PWB-A : DUNTK9529WEW3(CL13M10/15)
MAIN UNIT (Continued)

R2045	VRN-MD2AL101J	J	100	1/10W	M-Film		AA
R2047	VRN-MD2AL221J	J	220	1/10W	M-Film		AA
R2048	VRD-RA2BE562J	J	5.6k	1/8W	Carbon		AA
R2049	VRN-MD2AL333J	J	33k	1/10W	M-Film		AA
R2054	VRN-MD2AL222J	J	2.2k	1/10W	M-Film		AA
R2055	VRN-MD2AL103J	J	10k	1/10W	M-Film		AA
R2060	VRN-MD2AL221J	J	220	1/10W	M-Film		AA
R2061	VRN-MD2AL562J	J	5.6k	1/10W	M-Film		AA
R2062	VRN-MD2AL183J	J	18k	1/10W	M-Film		AA
R2063	VRD-RA2BE222J	J	2.2k	1/8W	Carbon		AA
R2064	VRD-RA2BE332J	J	3.3k	1/8W	Carbon		AA
R2066	VRN-MD2AL103J	J	10k	1/10W	M-Film		AA
R2067	VRN-MD2AL103J	J	10k	1/10W	M-Film		AA
R2068	VRN-MD2AL103J	J	10k	1/10W	M-Film		AA
R2070	VRN-MD2AL103J	J	10k	1/10W	M-Film		AA
R2101	VRN-MD2AL101J	J	100	1/10W	M-Film		AA
R2102	VRN-MD2AL101J	J	100	1/10W	M-Film		AA
R2401	VRN-MD2AL101J	J	100	1/10W	M-Film		AA
R2402	VRN-MD2AL101J	J	100	1/10W	M-Film		AA
R2403	VRN-MD2AL101J	J	100	1/10W	M-Film		AA
R2404	VRN-MD2AL101J	J	100	1/10W	M-Film		AA
R2501	VRN-MD2AL123J	J	12k	1/10W	M-Film		AA
R2503	VRN-MD2AL273J	J	27k	1/10W	M-Film		AA
R2504	VRN-MD2AL123J	J	12k	1/10W	M-Film		AA
R2505	VRN-MD2AL563J	J	56k	1/10W	M-Film		AA
R2506	VRN-MD2AL563J	J	56k	1/10W	M-Film		AA
R2507	VRN-MD2AL823J	J	82k	1/10W	M-Film		AA
R2508	VRN-MD2AL153J	J	15k	1/10W	M-Film		AA
R2509	VRN-MD2AL272J	J	2.7k	1/10W	M-Film		AA
R2601	VRD-RA2BE331J	J	330	1/8W	Carbon		AA

SWITCHES

S2501	QSW-K0079GEZZ	J	Power	AB
S2502	QSW-K0079GEZZ	J	Vol-down	AB
S2503	QSW-K0079GEZZ	J	Vol-up	AB
S2504	QSW-K0079GEZZ	J	CH-down	AB
S2505	QSW-K0079GEZZ	J	CH-up	AB

MISCELLANEOUS PARTS

⚠ RY701	RRLYU0036CEZZ or RRLYU0038CEZZ or RRLYU0077CEZZ	J	Relay		AM
⚠ F701	QFS-B4023CEZZ or QFS-B4021GEZZ	J	Fuse, 4A(125V)		AC
FB602	RBLN-0037CEZZ	J	Ferrite Bead		AB
FB603	RBLN-0037CEZZ	J	Ferrite Bead		AB
FH701	QFSHD1013CEZZ	J	Fuse Holder		AC
FH702	QFSHD1014CEZZ	J	Fuse Holder		AC
J903	QJAKE0159CEZZ	J	Jack, Audio IN		AF
J905	QJAKE0158CEZZ	J	Jack, Video IN		AF
P302	QPLGN0261CEZZ	J	Plug, 2-pin(S)		AB
P401	QPLGN0561CEZZ	J	Plug, 5-pin(GBN)		AB
P601	QPLGN0603CEZZ	J	Plug, 6-pin(K)		AB
P651	QPLGN0361CEZZ	J	Plug, 3-pin		AB
P701	QPLGN0207CEZZ	J	Plug, 2-pin(M)		AA
P751	QPLGN0461CEZZ	J	Plug, 4-pin(YBN)		AB
P2001	QPLGN0561CEZZ	J	Plug, 5-pin		AB
RMC2601	RRMCU0227CEZZ or RRMCU0222CEZZ	J	R/C Receiver		AK
RDA501	PRDAR0218PEFW	R	Heat Sink, IC501		AD
RDA701	PRDAR0237PEFW	R	Heat Sink, IC701		AK
TP701	QLUGP0102PEZZ	R	Lug		AA
	PZETM0016CEZZ	J	Insulator		AB
	LX-BZ3049GEFD	J	Screw		AA
	LX-BZ3100CEFD	J	Screw		AA
	LX-TZ3004CEFD	J	Screw		AA

Ref. No.	Part No.	★	Description	Code

PWB-A : DUNTK9529WEW5(14ML10)
MAIN UNIT

TUNER

NOTE : THE PARTS HERE SHOWN ARE SUPPLIED AS AN ASSEMBLY BUT NOT INDEPENDENTLY.

⚠ TU51	VTU115B8025AM	M	Tuner		BA

INTEGRATED CIRCUITS

IC101	VHiKA78S05P-1 or VHiTA7805S/-1	J	KA78S05P		AD
▲⚠ IC201	RH-iX3253CEZZ	J	TA1268AN		AV
IC351	VHiTDA7233/-1	J	TDA7233		AF
⚠ IC501	VHiTA8403K/-1	J	TA8403K		AL
▲⚠ IC701	VHiSTR301301E	J	STR30130		AP
⚠ IC751	VHiKA7809Pi-1 or VHiTA7809S/-1	J	KA7809PI		AE
⚠ IC761	VHiKA7812Pi-1 or VHiTA7812S/-1	J	KA7812PI		AE
IC2001	RH-iX3256CEZZ	J	TMPA8701CMF142		AX
IC2040	VHiPST994C/-1	J	PST994C		AD
IC2101	VHiM24C01B/-1	J	M24C01-BN6		AF

TRANSISTORS

You can substitute "VS2SC2462-C-1" for "VS2SD601AR/-1".

Q201	VS2SC2735//1E	J	2SC2735		AC
Q351	VS2SD601AR/-1	J	2SD601AR		AC
Q401	VS2SD601AR/-1	J	2SD601AR		AC
Q403	VS2SD601AR/-1	J	2SD601AR		AC
Q404	VS2SB709AR/-1	J	2SB709AR		AC
Q451	VS2SB709AR/-1	J	2SB709AR		AC
Q501	VS2SD601AR/-1	J	2SD601AR		AC
Q601	VS2SC2655Y/-1	J	2SC2655Y		AE
▲⚠ Q602	VS2SD2586//1E or VS2SD2095//1E	J	2SD2586		AM
Q603	VS2SC945AQ/-1 or VS2SC1815YW-1 or VS2SC3198-Y-1	J	2SC945A(Q)		AB
Q752	VS2SC945AQ/-1 or VS2SC1815YW-1 or VS2SC3198-Y-1	J	2SC945A(Q)		AB
Q753	VS2SA1013//1E	J	2SA1013		AD
Q2001	VS2SD601AR/-1	J	2SD601AR		AC
Q2002	VS2SD601AR/-1	J	2SD601AR		AC
Q2060	VS2SD601AR/-1	J	2SD601AR		AC

DIODES

D51	RH-EX0611GEZZ	J	Zener Diode, 5.1V		AA
D52	RH-EX0676GEZZ	J	Zener Diode, 32V		AA
D401	VHD1SS119//-1	J	Diode		AB
D402	RH-EX0092CEZZ	J	Zener Diode, 3.9V		AB
D454	RH-EX0103CEZZ	J	Zener Diode, 5.6V		AB
D455	VHD1SS119//-1	J	Diode		AB
D501	RH-DX0441CEZZ or RH-DX0110CEZZ	J	Diode		AC
⚠ D502	RH-DX0131CEZZ	J	Diode		AC
D601	RH-DX0441CEZZ or RH-DX0110CEZZ	J	Diode		AC
D603	RH-DX0441CEZZ or RH-DX0110CEZZ	J	Diode		AC
D610	RH-DX0131CEZZ	J	Diode		AC
D631	RH-EX0630GEZZ	J	Zener Diode, 9.1V		AA

PWB-A : DUNTK9529WEW5(14ML10)
MAIN UNIT (Continued)

Ref. No.	Part No.	★	Description	Code
D641	RH-EX0630GEZZ	J	Zener Diode, 9.1V	AA
▲⚠ D651	RH-DX0131CEZZ	J	Diode	AC
▲⚠ D652	VHD1SS119//-1	J	Diode	AB
▲⚠ D653	RH-EX0091CEZZ	J	Zener Diode, 22V	AB
⚠ D661	RH-DX0444CEZZ	J	Diode	AH
⚠ D701	RH-DX0154CEZZ	J	Diode	AC
⚠ D702	RH-DX0154CEZZ	J	Diode	AC
⚠ D703	RH-DX0154CEZZ	J	Diode	AC
⚠ D704	RH-DX0154CEZZ	J	Diode	AC
D753	VHD1SS119//-1	J	Diode	AB
D754	VHD1SS119//-1	J	Diode	AB
D755	RH-DX0441CEZZ or RH-DX0110CEZZ	J	Diode	AC
⚠ D756	RH-DX0441CEZZ or RH-DX0110CEZZ	J	Diode	AC
D757	VHD1SS119//-1	J	Diode	AB
⚠ D758	RH-DX0131CEZZ or RH-DX0110CEZZ	J	Diode	AC
⚠ D760	RH-DX0441CEZZ	J	Diode	AC
⚠ D761	RH-DX0441CEZZ or RH-DX0110CEZZ	J	Diode	AC
⚠ D762	RH-DX0441CEZZ or RH-DX0110CEZZ	J	Diode	AC
D763	VHD1SS119//-1	J	Diode	AB
D901	RH-EX0630GEZZ	J	Zener Diode, 9.1V	AA
D902	RH-EX0630GEZZ	J	Zener Diode, 9.1V	AA
D2001	VHD1SS119//-1	J	Diode	AB

PACKAGED CIRCUITS

⚠ PR701	RMPTP0026CEZZ	J	Packaged Circuit	AF
X801	RCRSB0205CEZZ or RCRSB0001PEZZ	J	Crystal	AF

FILTERS

CF301	RFiLC0403CEZZ	J	Ceramic Filter	AE
CF401	RFiLC0013CEZZ	J	Ceramic Filter	AE
CF631	RFiLA0034CEZZ	J	Ceramic Filter	AD
CF2040	RFiLC0121GEZZ	J	Ceramic Filter	AD
SF201	RFiLC0405CEZZ	J	SAW Filter	AH

COILS

L201	VP-XF1R2K0000	J	Peaking 1.2µH	AB
L202	RCiLi0612CEZZ or RCiLi0588CEZZ	J	IF Coil	AE
L301	VP-XF8R2K0000	J	Peaking 8.2µH	AB
L302	RCiLi0613CEZZ	J	VCO Coil	AE
L401	VP-XF120K0000	J	Peaking 12µH	AB
L402	VP-XF100K0000	J	Peaking 10µH	AB
L406	VP-XF680K0000	J	Peaking 68µH	AB
L408	VP-XF100K0000	J	Peaking 10µH	AB
⚠ L701	RCiLF0029PEZZ or RCiLF0087CEZZ or RCiLF0235CEZZ	R	Coil	AH
L2040	RCiLB0159CEZZ	J	Oscillation Coil	AE

TRANSFORMERS

⚠ T601	RTRNZ0168CEZZ	J	Transformer	AH
▲⚠ T602	RTRNF0148PEZZ or RTRNF0151PEZZ	R	H-Volt Transformer	BD
⚠ T701	RTRNP0527CEZZ or RTRNP0518CEZZ	J	Power Transformer	AM

CAPACITORS

[EL.··· Electrolytic, M-Poly.··· Metalized Polypro Film]

C51	VCEA0A1CW476M	J	47	16V	EL.	AB
C52	VCSATA1CE226K	J	22	16V	Tantalum	AD
C53	VCEA0A1HW105M	J	1.0	50V	EL.	AB
C54	VCEA0A1HW225M	J	2.2	50V	EL.	AB
C55	VCEAGA1CW108M	J	1000	16V	EL.	AD
C201	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C202	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C203	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C204	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C205	VCEA0A1HW474M	J	0.47	50V	EL.	AB
C206	VCEA0A1CW227M	J	220	16V	EL.	AC
C207	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C208	VCEA0A1HW474M	J	0.47	50V	EL.	AB
C209	VCKYCY1HB222K	J	2200p	50V	Ceramic	AA
C210	VCKYCY1HB102K	J	1000p	50V	Ceramic	AA
C302	VCCCCY1HH330J	J	33p	50V	Ceramic	AA
C303	VCKYCY1HB472K	J	4700p	50V	Ceramic	AA
C304	VCEA0A1HW225M	J	2.2	50V	EL.	AB
C305	VCKYPA1HB151K	J	150p	50V	Ceramic	AA
C306	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C308	VCKYCY1HB102K	J	1000p	50V	Ceramic	AA
C309	VCEA0A1CW227M	J	220	16V	EL.	AC
C312	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C314	VCEA0A1HW225M	J	2.2	50V	EL.	AB
C351	VCKYCY1HB562K	J	5600p	50V	Ceramic	AA
C352	VCEA0A1CW107M	J	100	16V	EL.	AC
C353	VCEA0A1CW337M	J	330	16V	EL.	AC
C354	RC-QZA104TAYK	J	0.1	50V	Mylar	AB
C355	VCEA0A1CW226M	J	22	16V	EL.	AB
C361	VCEA0A1CW477M	J	470	16V	EL.	AC
C362	VCEA0A1CW476M	J	47	16V	EL.	AB
C403	VCCCCY1HH101J	J	100p	50V	Ceramic	AA
C404	VCCCCY1HH680J	J	68p	50V	Ceramic	AA
C405	VCEA0A1HW335M	J	3.3	50V	EL.	AB
C406	VCEA0A1HW335M	J	3.3	50V	EL.	AB
C407	RC-QZA104TAYK	J	0.1	50V	Mylar	AB
C408	VCEA0A1CW106M	J	10	16V	EL.	AB
C409	VCEA0A1HW105M	J	1.0	50V	EL.	AB
C410	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C411	VCEAGA1CW108M	J	1000	16V	EL.	AD
C413	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C414	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C419	VCCCCY1HH330J	J	33p	50V	Ceramic	AA
C420	VCCCCY1HH471J	J	470p	50V	Ceramic	AA
C451	RC-QZA563TAYK	J	0.056	50V	Mylar	AB
C454	VCEA0A1HW475M	J	4.7	50V	EL.	AB
C502	VCEA0A1EW477M	J	470	25V	EL.	AD
C504	VCKYPA2HB391K	J	390p	500V	Ceramic	AA
C505	VCQYTA1HM473K	J	0.047	50V	Mylar	AB
C507	VCKYPA1HB102K	J	1000p	50V	Ceramic	AA
C508	VCEAGA1VW107M	J	100	35V	EL.	AC
C509	VCKYPA2HB102K	J	1000p	500V	Ceramic	AA
C510	VCEAGA1VW477M	J	470	35V	EL.	AD
C511	VCQYTA1HM473K	J	0.047	50V	Mylar	AB
C513	VCEACA1HC225M	J	2.2	50V	EL.	AC
C514	VCEACA1HC335J	J	3.3	50V	EL.	AC
C517	VCKYCY1HB102K	J	1000p	50V	Ceramic	AA
C551	VCSATA1CE225K	J	2.2	16V	Tantalum	AB
C552	VCEA0A1HW225M	J	2.2	50V	EL.	AB
C604	VCEA0A1CW227M	J	220	16V	EL.	AC
▲⚠ C608	VCFPPD3CA522H	J	5200p	1.6kV	M-Poly.	AE
C609	RC-QZA223TAYK	J	0.022	50V	Mylar	AB
C612	VCFPPB2EB334J	J	0.33	250V	M-Poly.	AF
C631	VCEA0A1HW225M	J	2.2	50V	EL.	AB
C632	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C633	VCEA0A1HW105M	J	1.0	50V	EL.	AB
C652	VCEA0A1HW475M	J	4.7	50V	EL.	AB
C653	VCEA0A1CW106M	J	10	16V	EL.	AB
C661	VCKYPA2HB152K	J	1500p	500V	Ceramic	AA

PWB-A : DUNTK9529WEW5(14ML10)
MAIN UNIT (Continued)

Ref. No.	Part No.	★				Description	Code
C662	VCEA0A1CW477M	J	470	16V		EL.	AC
⚠ C701	RC-FZ027SCEZZ	J	0.047	AC125V		Plastic	
	or						
	RC-FZ002SCEZZ						
	or						
	RC-FZ004SGEZZ						
	or						
	RC-FZ027CUMZZ						
	or						
	RC-FZ019SCEZZ						
	or						
	RC-FZ059SCEZZ						
C702	VCKYPB2HE103P	J	0.01	500V		Ceramic	AB
C703	VCKYPB2HE103P	J	0.01	500V		Ceramic	AB
C704	VCKYPB2HE103P	J	0.01	500V		Ceramic	AB
⚠ C705	RC-EZ0422CEZZ	J	470	200V		EL.	
	or						
	RC-EZ0522CEZZ						
⚠ C706	RC-KZ0092GEZZ	J	0.0033	AC125V		Ceramic	AC
	or						
	RC-KZ0311CEZZ						
C707	VCEAGA2CW226M	J	22	160V		EL.	AD
⚠ C712	RC-EZ0638CEZZ	J	33	160V		EL.	AG
	or						
	RC-EZ0658CEZZ						
C751	VCEA0A1VW477M	J	470	35V		EL.	AB
C754	VCEA0A1CW337M	J	330	16V		EL.	AC
C755	VCEA0A1CW107M	J	100	16V		EL.	AC
C756	VCEAGA1CW108M	J	1000	16V		EL.	AD
C757	RC-QZA104TAYK	J	0.1	50V		Mylar	AB
⚠ C758	VCEAGA2EW106M	J	10	250V		EL.	AC
C759	VCKYPA2HB102K	J	1000p	500V		Ceramic	AA
C760	VCEAGA1CW108M	J	1000	16V		EL.	AD
C801	RC-QZA223TAYK	J	0.022	50V		Mylar	AB
C802	VCEA0A1HW474M	J	0.47	50V		EL.	AB
C803	VCCCCY1HH120J	J	12p	50V		Ceramic	AA
C804	VCEA0A1HW104M	J	0.1	50V		EL.	AB
C805	VCEA0A1HW104M	J	0.1	50V		EL.	AB
C806	VCEA0A1HW104M	J	0.1	50V		EL.	AB
C807	VCCCCY1HH820J	J	82p	50V		Ceramic	AA
C901	VCKYCY1EF104Z	J	0.1	25V		Ceramic	AA
C905	VCEA0A1HW335M	J	3.3	50V		EL.	AB
C2001	VCCCCY1HH101J	J	100p	50V		Ceramic	AA
C2002	VCCCCY1HH101J	J	100p	50V		Ceramic	AA
C2021	VCCCCY1HH101J	J	100p	50V		Ceramic	AA
C2022	VCCCCY1HH101J	J	100p	50V		Ceramic	AA
C2023	VCCCCY1HH101J	J	100p	50V		Ceramic	AA
C2024	VCCCCY1HH101J	J	100p	50V		Ceramic	AA
C2040	VCEA0A1AW107M	J	100	10V		EL.	AB
C2041	VCEA0A1HW105M	J	1.0	50V		EL.	AB
C2051	VCCCCY1HH101J	J	100p	50V		Ceramic	AA
C2060	RC-QZA104TAYK	J	0.1	50V		Mylar	AB
C2061	VCKYD41HB101K	J	100p	50V		Ceramic	AA
C2062	VCEA0A1AW107M	J	100	10V		EL.	AB
C2402	VCCCCY1HH560J	J	56p	50V		Ceramic	AA
C2601	VCEA0A1HW475M	J	4.7	50V		EL.	AB
C2602	VCCCCY1HH101J	J	100p	50V		Ceramic	AA

RESISTORS

[M-Ox.··· Metal Oxide, M-Film ··· Metal Film]

RJ1	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ3	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ5	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ6	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ7	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ9	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ10	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ15	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ17	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ18	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ19	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ20	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ21	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ23	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ24	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ26	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ31	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ32	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ35	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ39	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ40	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ46	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ49	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ52	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ54	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ55	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ57	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ59	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ62	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ63	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ66	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ67	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ68	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ69	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ71	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ75	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ77	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ78	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
RJ79	VRS-CY1JF000J	J	0	1/16W	M-Ox.	AA
⚠ R51	VRS-VV3DB151J	J	150	2W	M-Ox.	AA
⚠ R52	VRN-VV3DB1R0J	J	1.0	2W	M-Film	AB
⚠ R53	VRS-VV3LB223J	J	22k	3.0W	M-Ox.	AB
R54	VRS-CY1JF101J	J	100	1/16W	M-Ox.	AA
R55	VRS-CY1JF101J	J	100	1/16W	M-Ox.	AA
R56	VRS-CY1JF823J	J	82k	1/16W	M-Ox.	AA
R57	VRS-CY1JF103J	J	10k	1/16W	M-Ox.	AA
R201	VRS-CY1JF221J	J	220	1/16W	M-Ox.	AA
R202	VRS-CY1JF122J	J	1.2k	1/16W	M-Ox.	AA
R203	VRD-RA2BE682J	J	6.8k	1/8W	Carbon	AA
R204	VRS-CY1JF270J	J	27	1/16W	M-Ox.	AA
R205	VRD-RA2BE391J	J	390	1/8W	Carbon	AA
R206	VRD-RA2EE151J	J	150	1/4W	Carbon	AA
R208	VRS-CY1JF391J	J	390	1/16W	M-Ox.	AA
R301	VRD-RA2BE222J	J	2.2k	1/8W	Carbon	AA
R302	VRS-CY1JF102J	J	1.0k	1/16W	M-Ox.	AA
R303	VRS-CY1JF153J	J	15k	1/16W	M-Ox.	AA
R307	VRS-CY1JF333J	J	33k	1/16W	M-Ox.	AA
R352	VRS-CY1JF332J	J	3.3k	1/16W	M-Ox.	AA
R353	VRS-CY1JF4R7J	J	4.7	1/16W	M-Ox.	AA
R354	VRS-CY1JF152J	J	1.5k	1/16W	M-Ox.	AA
R361	VRD-RA2BE102J	J	1.0k	1/8W	Carbon	AA
R364	VRS-CY1JF473J	J	47k	1/16W	M-Ox.	AA
R401	VRS-CY1JF682J	J	6.8k	1/16W	M-Ox.	AA
R403	VRD-RA2BE331J	J	330	1/8W	Carbon	AA
R404	VRS-CY1JF391J	J	390	1/16W	M-Ox.	AA
R407	VRS-CY1JF471J	J	470	1/16W	M-Ox.	AA
R409	VRS-CY1JF471J	J	470	1/16W	M-Ox.	AA
R410	VRD-RA2BE563J	J	56k	1/8W	Carbon	AA
R411	VRS-CY1JF103J	J	10k	1/16W	M-Ox.	AA
R412	VRD-RA2EE561J	J	560	1/4W	Carbon	AA
R413	VRD-RA2BE470J	J	47	1/8W	Carbon	AA
R414	VRD-RA2BE470J	J	47	1/8W	Carbon	AA
R415	VRD-RA2BE470J	J	47	1/8W	Carbon	AA
R416	VRS-CY1JF102J	J	1.0k	1/16W	M-Ox.	AA
R417	VRD-RA2BE101J	J	100	1/8W	Carbon	AB
R418	VRS-CY1JF152J	J	1.5k	1/16W	M-Ox.	AA
R419	VRS-CY1JF472J	J	4.7k	1/16W	M-Ox.	AA
R423	VRS-CY1JF222J	J	2.2k	1/16W	M-Ox.	AA
R426	VRS-CY1JF271J	J	270	1/16W	M-Ox.	AA
R440	VRS-CY1JF821J	J	820	1/16W	M-Ox.	AA
⚠ R451	VRS-SV2HC103J	J	10k	1/2W	M-Ox.	AA
R452	VRD-RA2BE152J	J	1.5k	1/8W	Carbon	AA
R454	VRD-RA2BE334J	J	330k	1/8W	Carbon	AA
R455	VRD-RA2BE392J	J	3.9k	1/8W	Carbon	AA
R456	VRS-CY1JF223J	J	22k	1/16W	M-Ox.	AA
R457	VRD-RA2BE102J	J	1.0k	1/8W	Carbon	AA
R458	VRD-RA2BE564J	J	560k	1/8W	Carbon	AA

PWB-A : DUNTK9529WEW5(14ML10)
MAIN UNIT (Continued)

Ref. No.	Part No.	★	Description			Code
R459	VRD-RA2BE123J	J	12k	1/8W	Carbon	AA
R504	VRD-RA2BE471J	J	470	1/8W	Carbon	AA
R505	VRS-CY1JF101J	J	100	1/16W	M-Ox.	AA
R506	VRD-RA2BE683G	J	68k	1/8W	Carbon	AA
R507	VRD-RA2BE104G	J	100k	1/8W	Carbon	AA
R508	VRD-RA2BE473J	J	47k	1/8W	Carbon	AA
R510	VRD-RM2HD1R5J	J	1.5	1/2W	Carbon	AA
⚠ R511	VRN-SV2HB3R9J	J	3.9	1/2W	M-Film	AB
R512	VRD-RM2HD681J	J	680	1/2W	Carbon	AA
R516	VRD-RA2BE223G	J	22k	1/8W	Carbon	AA
R517	VRD-RA2BE103G	J	10k	1/8W	Carbon	AA
R518	VRD-RA2BE154J	J	150k	1/8W	Carbon	AA
R524	VRS-CY1JF332J	J	3.3k	1/16W	M-Ox.	AA
R525	VRD-RA2BE473J	J	47k	1/8W	Carbon	AA
R552	VRD-RA2BE102J	J	1.0k	1/8W	Carbon	AA
R553	VRS-CY1JF273J	J	27k	1/16W	M-Ox.	AA
R554	VRS-CY1JF472J	J	4.7k	1/16W	M-Ox.	AA
R555	VRS-CY1JF102J	J	1.0k	1/16W	M-Ox.	AA
R556	VRS-CY1JF102J	J	1.0k	1/16W	M-Ox.	AA
R602	VRD-RA2EE820J	J	82	1/4W	Carbon	AA
⚠ R603	VRS-VV3LB270J	J	27	3.0W	M-Ox.	AB
R605	VRS-CY1JF332J	J	3.3k	1/16W	M-Ox.	AA
R606	VRD-RA2BE102J	J	1.0k	1/8W	Carbon	AA
R608	VRD-RA2BE101J	J	100	1/8W	Carbon	AB
R609	VRD-RA2BE331J	J	330	1/8W	Carbon	AA
⚠ R610	VRS-VV3DB391J	J	390	2W	M-Ox.	AA
R620	VRD-RA2BE473J	J	47k	1/8W	Carbon	AA
R621	VRS-CY1JF682J	J	6.8k	1/16W	M-Ox.	AA
R631	VRS-CY1JF391J	J	390	1/16W	M-Ox.	AA
R632	VRS-CY1JF152J	J	1.5k	1/16W	M-Ox.	AA
R633	VRS-CY1JF472J	J	4.7k	1/16W	M-Ox.	AA
R634	VRD-RM2HD121J	J	120	1/2W	Carbon	AA
⚠ R641	VRS-VV3AB682J	J	6.8k	1W	M-Ox.	AA
R642	VRD-RA2BE821J	J	820	1/8W	Carbon	AA
▲⚠ R651	VRD-RM2HD1R0J	J	1.0	1/2W	Carbon	AA
▲⚠ R654	VRD-RA2BE154J	J	150k	1/8W	Carbon	AA
▲⚠ R655	VRS-CY1JF104J	J	100k	1/16W	M-Ox.	AA
▲⚠ R656	VRS-CY1JF333J	J	33k	1/16W	M-Ox.	AA
⚠ R659	VRN-VV3AB1R8J	J	1.8	1W	M-Film	AA
⚠ R661	VRN-VV3ABR47J	J	0.47	1W	Metal Film	AA
⚠ R701	RR-HZ0046CEZZ or RR-DZ0047CEZZ or VRC-UB2HG275K	J	2.7M	1/2W	Solid	AD
⚠ R702	VRW-KP3HC1R8K	J	1.8	5W	Cement	AC
⚠ R703	VRS-KA3NG561J	J	560	7.0W	M-Ox.	AF
R704	VRD-RM2HD123J	J	12k	1/2W	Carbon	AA
R705	VRD-RA2EE334J	J	330k	1/4W	Carbon	AA
R706	VRD-RM2HD470J	J	47	1/2W	Carbon	AA
⚠ R707	VRN-VV3DB1R5J	J	1.5	2W	Metal Film	AB
⚠ R708	VRD-RM2HD824J	J	820k	1/2W	Carbon	AA
⚠ R709	VRS-KA3NG561J	J	560	7.0W	M-Ox.	AF
⚠ R717	VRS-KA3HG3R3K	J	3.3	5W	M-Ox.	AD
⚠ R730	VRS-VV3DB270J	J	27	2W	M-Ox.	AA
⚠ R750	VRS-VV3AB561J	J	560	1W	M-Ox.	AA
R752	VRD-RA2BE562J	J	5.6k	1/8W	Carbon	AA
R754	VRS-CY1JF471J	J	470	1/16W	M-Ox.	AA
⚠ R755	VRS-VV3DB470J	J	47	2W	M-Ox.	AA
R757	VRS-CY1JF472J	J	4.7k	1/16W	M-Ox.	AA
⚠ R758	VRS-SV2HC150J	J	15	1/2W	M-Ox.	AA
R801	VRS-CY1JF332J	J	3.3k	1/16W	M-Ox.	AA
R802	VRS-CY1JF332J	J	3.3k	1/16W	M-Ox.	AA
R803	VRS-CY1JF182J	J	1.8k	1/16W	M-Ox.	AA
R804	VRS-CY1JF182J	J	1.8k	1/16W	M-Ox.	AA
R805	VRS-CY1JF182J	J	1.8k	1/16W	M-Ox.	AA
R806	VRS-CY1JF333J	J	33k	1/16W	M-Ox.	AA
R902	VRS-CY1JF750J	J	75	1/16W	M-Ox.	AA
R906	VRS-CY1JF102J	J	1.0k	1/16W	M-Ox.	AA
R925	VRS-CY1JF104J	J	100k	1/16W	M-Ox.	AA
R961	VRS-CY1JF101J	J	100	1/16W	M-Ox.	AA
R962	VRS-CY1JF101J	J	100	1/16W	M-Ox.	AA
R2001	VRD-RA2BE102J	J	1.0k	1/8W	Carbon	AA
R2002	VRS-CY1JF103J	J	10k	1/16W	M-Ox.	AA
R2006	VRS-CY1JF103J	J	10k	1/16W	M-Ox.	AA
R2007	VRD-RA2BE223J	J	22k	1/8W	Carbon	AA
R2008	VRD-RA2BE224J	J	220k	1/8W	Carbon	AA
R2009	VRS-CY1JF102J	J	1.0k	1/16W	M-Ox.	AA
R2010	VRS-CY1JF102J	J	1.0k	1/16W	M-Ox.	AA
R2011	VRS-CY1JF821J	J	820	1/16W	M-Ox.	AA
R2012	VRS-CY1JF471J	J	470	1/16W	M-Ox.	AA
R2020	VRD-RM2HD223J	J	22k	1/2W	Carbon	AA
R2022	VRD-RA2BE333J	J	33k	1/8W	Carbon	AA
R2024	VRD-RA2BE682J	J	6.8k	1/8W	Carbon	AA
R2025	VRD-RA2BE682J	J	6.8k	1/8W	Carbon	AA
R2026	VRD-RA2BE682J	J	6.8k	1/8W	Carbon	AA
R2027	VRD-RA2BE682J	J	6.8k	1/8W	Carbon	AA
R2028	VRD-RA2BE102J	J	1.0k	1/8W	Carbon	AA
R2029	VRS-CY1JF102J	J	1.0k	1/16W	M-Ox.	AA
R2032	VRS-CY1JF471J	J	470	1/16W	M-Ox.	AA
R2033	VRD-RA2BE103J	J	10k	1/8W	Carbon	AA
R2040	VRS-CY1JF102J	J	1.0k	1/16W	M-Ox.	AA
R2041	VRS-CY1JF333J	J	33k	1/16W	M-Ox.	AA
R2042	VRS-CY1JF101J	J	100	1/16W	M-Ox.	AA
R2043	VRS-CY1JF101J	J	100	1/16W	M-Ox.	AA
R2044	VRS-CY1JF683J	J	68k	1/16W	M-Ox.	AA
R2045	VRS-CY1JF101J	J	100	1/16W	M-Ox.	AA
R2047	VRS-CY1JF221J	J	220	1/16W	M-Ox.	AA
R2048	VRD-RA2BE562J	J	5.6k	1/8W	Carbon	AA
R2049	VRS-CY1JF333J	J	33k	1/16W	M-Ox.	AA
R2054	VRS-CY1JF222J	J	2.2k	1/16W	M-Ox.	AA
R2055	VRS-CY1JF103J	J	10k	1/16W	M-Ox.	AA
R2060	VRS-CY1JF221J	J	220	1/16W	M-Ox.	AA
R2061	VRS-CY1JF562J	J	5.6k	1/16W	M-Ox.	AA
R2062	VRS-CY1JF183J	J	18k	1/16W	M-Ox.	AA
R2063	VRD-RA2BE222J	J	2.2k	1/8W	Carbon	AA
R2064	VRD-RA2BE332J	J	3.3k	1/8W	Carbon	AA
R2066	VRS-CY1JF103J	J	10k	1/16W	M-Ox.	AA
R2067	VRS-CY1JF103J	J	10k	1/16W	M-Ox.	AA
R2068	VRS-CY1JF103J	J	10k	1/16W	M-Ox.	AA
R2070	VRS-CY1JF103J	J	10k	1/16W	M-Ox.	AA
R2101	VRS-CY1JF101J	J	100	1/16W	M-Ox.	AA
R2102	VRS-CY1JF101J	J	100	1/16W	M-Ox.	AA
R2401	VRS-CY1JF101J	J	100	1/16W	M-Ox.	AA
R2402	VRS-CY1JF101J	J	100	1/16W	M-Ox.	AA
R2403	VRS-CY1JF101J	J	100	1/16W	M-Ox.	AA
R2404	VRS-CY1JF101J	J	100	1/16W	M-Ox.	AA
R2501	VRS-CY1JF123J	J	12k	1/16W	M-Ox.	AA
R2503	VRS-CY1JF273J	J	27k	1/16W	M-Ox.	AA
R2504	VRS-CY1JF123J	J	12k	1/16W	M-Ox.	AA
R2505	VRS-CY1JF563J	J	56k	1/16W	M-Ox.	AA
R2506	VRS-CY1JF563J	J	56k	1/16W	M-Ox.	AA
R2507	VRS-CY1JF823J	J	82k	1/16W	M-Ox.	AA
R2508	VRS-CY1JF153J	J	15k	1/16W	M-Ox.	AA
R2509	VRS-CY1JF272J	J	2.7k	1/16W	M-Ox.	AA
R2601	VRD-RA2BE331J	J	330	1/8W	Carbon	AA

SWITCHES

S2501	QSW-K0079GEZZ	J	Power	AB
S2502	QSW-K0079GEZZ	J	Vol-down	AB
S2503	QSW-K0079GEZZ	J	Vol-up	AB
S2504	QSW-K0079GEZZ	J	CH-down	AB
S2505	QSW-K0079GEZZ	J	CH-up	AB

MISCELLANEOUS PARTS

⚠ RY701	RRLYU0036CEZZ or RRLYU0038CEZZ or RRLYU0077CEZZ	J	Relay	AM
⚠ F701	QFS-B4023CEZZ or QFS-B4021GEZZ	J	Fuse, 4A(125V)	AC
FB602	RBLN-0037CEZZ	J	Ferrite Bead	AB
FB603	RBLN-0037CEZZ	J	Ferrite Bead	AB
FH701	QFSHD1013CEZZ	J	Fuse Holder	AC
FH702	QFSHD1014CEZZ	J	Fuse Holder	AC

PWB-A : DUNTK9529WEW5(14ML10)
MAIN UNIT (Continued)

Ref. No.	Part No.	★	Description	Code
J903	QJAKE0159CEZZ	J	Jack, Audio IN	AF
J905	QJAKE0158CEZZ	J	Jack, Video IN	AF
P302	QPLGN0261CEZZ	J	Plug, 2-pin(S)	AB
P401	QPLGN0561CEZZ	J	Plug, 5-pin(GBN)	AB
P601	QPLGN0603CEZZ	J	Plug, 6-pin(K)	AB
P651	QPLGN0361CEZZ	J	Plug, 3-pin	AB
P701	QPLGN0207CEZZ	J	Plug, 2-pin(M)	AA
P751	QPLGN0461CEZZ	J	Plug, 4-pin(YBN)	AB
P2001	QPLGN0561CEZZ	J	Plug, 5-pin	AB
RMC2601	RRMCU0227CEZZ	J	R/C Receiver	AK
	or			
	RRMCU0222CEZZ			
HM601	LX-GZ3002PEZZ	R	Screw	AB
HM602	LX-GZ3002PEZZ	R	Screw	AB
HM705	LX-GZ3001PEZZ	R	Screw	AB
HM706	LX-GZ3001PEZZ	R	Screw	AB
HM707	LX-GZ3001PEZZ	R	Screw	AB
HM708	LX-GZ3001PEZZ	R	Screw	AB
HM711	LX-GZ3001PEZZ	R	Screw	AB
HM712	LX-GZ3001PEZZ	R	Screw	AB
HM713	LX-GZ3001PEZZ	R	Screw	AB
HM714	LX-GZ3001PEZZ	R	Screw	AB
HM715	LX-GZ3001PEZZ	R	Screw	AB
HM716	LX-GZ3001PEZZ	R	Screw	AB
HM717	LX-GZ3001PEZZ	R	Screw	AB
HM718	LX-GZ3001PEZZ	R	Screw	AB
HM719	LX-GZ3001PEZZ	R	Screw	AB
HM720	LX-GZ3001PEZZ	R	Screw	AB
HM722	LX-GZ3002PEZZ	R	Screw	AB
HM724	LX-GZ3002PEZZ	R	Screw	AB
HM726	LX-GZ3002PEZZ	R	Screw	AB
HM729	LX-GZ3001PEZZ	R	Screw	AB
HM730	LX-GZ3001PEZZ	R	Screw	AB
HM734	LX-GZ3002PEZZ	R	Screw	AB
HM735	LX-GZ3002PEZZ	R	Screw	AB
HM739	LX-GZ3002PEZZ	R	Screw	AB
HM740	LX-GZ3002PEZZ	R	Screw	AB
HM741	LX-GZ3002PEZZ	R	Screw	AB
HM743	LX-GZ3002PEZZ	R	Screw	AB
RDA501	PRDAR0103GJFW	X	Heat Sink, IC501	
RDA701	PRDAR0237PEFW	R	Heat Sink, IC701	AK
TP701	QLUGP0102PEZZ	R	Lug	AA
	PZETM0016CEZZ	J	Insulator	AB
	LX-BZ3049GEFD	J	Screw	AA
	LX-BZ3100CEFD	J	Screw	AA
	LX-TZ3004CEFD	J	Screw	AA

PWB-B : DUNTK9530WEW1
(13L-M100/150, CL13M10/15)
CRT UNIT

Ref. No.	Part No.	★	Description	Code

TRANSISTORS

Q852	VS2SC2229O/1E	J	2SC2229(O)	AD
Q854	VS2SC2229O/1E	J	2SC2229(O)	AD
Q856	VS2SC2229O/1E	J	2SC2229(O)	AD
Q881	VS2SA1266-Y-1	J	2SA1266(Y)	AA
	or			
	VS2SA1015-Y-1			

DIODES

D881	VHD1SS119//-1	J	Diode	AB
D882	VHD1SS119//-1	J	Diode	AB
D885	VHD1SS119//-1	J	Diode	AB

COIL

L851	VP-DF151K0000	J	Peaking 150µH	AB

CAPACITORS

[EL.··· Electrolytic]

C851	VCCCCY1HH271J	J	270p	50V	Ceramic	AA
C852	VCCCCY1HH271J	J	270p	50V	Ceramic	AA
C853	VCCCCY1HH271J	J	270p	50V	Ceramic	AA
C854	RC-KZ0029CEZZ	J	0.01	1.4kV	Ceramic	AC
C881	VCEA0A1CW106M	J	10	16V	EL.	AB
C883	VCEA0A1CW336M	J	33	16V	EL.	AB

RESISTORS

[M-Ox.··· Metal Oxide, M-Film ··· Metal Film]

	R851	VRN-MD2AL470J	J	47	1/10W	M-Film	AA
	R852	VRD-RA2BE271J	J	270	1/8W	Carbon	AA
	R853	VRN-MD2AL121J	J	120	1/10W	M-Film	AA
⚠	R857	VRS-VV3AB123J	J	12k	1W	M-Ox.	AA
	R858	VRD-RM2HD332J	J	3.3k	1/2W	Carbon	AA
	R859	VRN-MD2AL470J	J	47	1/10W	M-Film	AA
	R860	VRD-RA2BE271J	J	270	1/8W	Carbon	AA
	R861	VRN-MD2AL121J	J	120	1/10W	M-Film	AA
⚠	R865	VRS-VV3AB123J	J	12k	1W	M-Ox.	AA
	R866	VRD-RM2HD332J	J	3.3k	1/2W	Carbon	AA
	R867	VRD-RA2BE470J	J	47	1/8W	Carbon	AA
	R868	VRN-MD2AL271J	J	270	1/10W	M-Film	AA
	R869	VRN-MD2AL121J	J	120	1/10W	M-Film	AA
⚠	R873	VRS-VV3AB123J	J	12k	1W	M-Ox.	AA
	R874	VRD-RM2HD332J	J	3.3k	1/2W	Carbon	AA
	R881	VRN-MD2AL561J	J	560	1/10W	M-Film	AA
	R882	VRN-MD2AL391J	J	390	1/10W	M-Film	AA
	R883	VRD-RA2BE561J	J	560	1/8W	Carbon	AA
	R884	VRN-MD2AL152J	J	1.5k	1/10W	M-Film	AA
	R886	VRN-MD2AL431J	J	430	1/10W	M-Film	AA
	R887	VRN-MD2AL470J	J	47	1/10W	M-Film	AA

MISCELLANEOUS PARTS

P851	QPLGN0561CEZZ	J	Plug, 5-pin(GBN)	AB
P852	QPLGN0461CEZZ	J	Plug, 4-pin(YBN)	AB
SC851	QSOCV0842CEZZ	J	CRT Socket	AH

Ref. No.	Part No.	★	Description	Code

PWB-B : DUNTK9530WEW5(14ML10)
CRT UNIT

TRANSISTORS

Q852	VS2SC2229O/1E	J	2SC2229O	AD
Q854	VS2SC2229O/1E	J	2SC2229O	AD
Q856	VS2SC2229O/1E	J	2SC2229O	AD
Q881	VS2SA1266-Y-1	J	2SA1266(Y)	AA
	or			
	VS2SA1015-Y-1			

DIODES

D881	VHD1SS119//-1	J	Diode	AB
D882	VHD1SS119//-1	J	Diode	AB
D885	VHD1SS119//-1	J	Diode	AB

COIL

L851	VP-DF151K0000	J	Peaking 150µH	AB

CAPACITORS

[EL.··· Electrolytic]

C851	VCCCCY1HH271J	J	270p	50V	Ceramic	AA
C852	VCCCCY1HH271J	J	270p	50V	Ceramic	AA
C853	VCCCCY1HH271J	J	270p	50V	Ceramic	AA
C854	RC-KZ0029CEZZ	J	0.01	1.4kV	Ceramic	AC
C881	VCEA0A1CW106M	J	10	16V	EL.	AB
C883	VCEA0A1CW336M	J	33	16V	EL.	AB

RESISTORS

[M-Ox.··· Metal Oxide, M-Film ··· Metal Film]

R851	VRS-CY1JF470J	J	47	1/16W	M-Ox.	AA
R852	VRD-RA2BE271J	J	270	1/8W	Carbon	AA
R853	VRS-CY1JF121J	J	120	1/16W	M-Ox.	AA
⚠ R857	VRS-VV3AB123J	J	12k	1W	M-Ox.	AA
R858	VRD-RM2HD332J	J	3.3k	1/2W	Carbon	AA
R859	VRS-CY1JF470J	J	47	1/16W	M-Ox.	AA
R860	VRD-RA2BE271J	J	270	1/8W	Carbon	AA
R861	VRS-CY1JF121J	J	120	1/16W	M-Ox.	AA
⚠ R865	VRS-VV3AB123J	J	12k	1W	M-Ox.	AA
R866	VRD-RM2HD332J	J	3.3k	1/2W	Carbon	AA
R867	VRD-RA2BE470J	J	47	1/8W	Carbon	AA
R868	VRS-CY1JF271J	J	270	1/16W	M-Ox.	AA
R869	VRS-CY1JF121J	J	120	1/16W	M-Ox.	AA
⚠ R873	VRS-VV3AB123J	J	12k	1W	M-Ox.	AA
R874	VRD-RM2HD332J	J	3.3k	1/2W	Carbon	AA
R881	VRS-CY1JF561J	J	560	1/16W	M-Ox.	AA
R882	VRS-CY1JF391J	J	390	1/16W	M-Ox.	AA
R883	VRD-RA2BE561J	J	560	1/8W	Carbon	AA
R884	VRS-CY1JF152J	J	1.5k	1/16W	M-Ox.	AA
R886	VRS-CY1JF431J	J	430	1/16W	M-Ox.	AA
R887	VRS-CY1JF470J	J	47	1/16W	M-Ox.	AA

MISCELLANEOUS PARTS

P851	QPLGN0561CEZZ	J	Plug, 5-pin(GBN)	AB
P852	QPLGN0461CEZZ	J	Plug, 4-pin(YBN)	AB
SC851	QSOCV0842CEZZ	J	CRT Socket	AH

MISCELLANEOUS PARTS

⚠ ACC701	QACCD3064CESA	J	AC Cord	AM
	or		(13L-M100, CL13M10, 14ML10)	
	QACCD3060CESA			
⚠ ACC701	QACCD3060CESB	J	AC Cord (13L-M150, CL13M15)	AR
	QCNW-2105PEZZ	R	Connecting Cord	AF
	QCNW-2106PEZZ	R	Connecting Cord	AE
	QCNW-2107PEZZ	R	Connecting Cord	AE
	QANTR0022PEZZ	R	Rod Antenna	AP
			(CL13M10/15)	
	QANTR0018PEZZ	R	Rod Antenna (14ML10)	AQ
SP1	VSP0080PBK58A	J	Speaker, 8 ohm	AL

SUPPLIED ACCESSORIES

RRMCG1324CESA	J	Infrared R/C Unit	AT
		(13L-M100, CL13M10)	
RRMCG1324CESB	J	Infrared R/C Unit	AT
		(13L-M150, CL13M15)	
RRMCG1339CESA		Infrared R/C Unit (14ML10)	AT
TGAN-0018PEZZ	R	Guarantee Card (13L-M100/150)	AD
TiNS-6571PEZZ	R	Operation Manual (13L-M100/150)	AD
TiNS-6572PEZZ	R	Operation Manual (CL13M10/15)	AD
TiNS-6573PEZZ	R	Operation Manual (14ML10)	

PACKING PARTS
(NOT REPLACEMENT ITEM)

SPAKC6502PEZZ	–	Packing Case (13L-M100)	—
SPAKC6503PEZZ	–	Packing Case (13L-M150)	—
SPAKC6504PEZZ	–	Packing Case (CL13M10)	—
SPAKC6505PEZZ	–	Packing Case (CL13M15)	—
SPAKC0107GJZZ	–	Packing Case (14ML10)	—
SPAKP0031PEZZ	–	Wrapping Paper	—
		(13L-M100/150, CL13M10/15)	
SPAKP0110PEZZ	–	Wrapping Paper	—
		(13L-M100/150, CL13M10/15)	
SPAKP0104PEZZ	–	Wrapping Paper (14ML10)	—
SPAKX2630PEZZ	–	Buffer Material	—
		(13L-M100/150, CL13M10/15)	
SPAKX0105GEZZ	–	Buffer Material (14ML10)	—
SSAKA0001PEZZ	–	Polyethylene Bag	—
		(13L-M100/150, CL13M10/15)	
SSAKA0101GEZZ	–	Polyethylene Bag (14ML10)	—

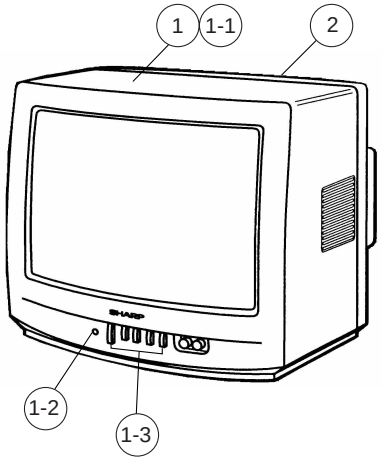
CABINET PARTS

13L-M100/150, CL13M10/15

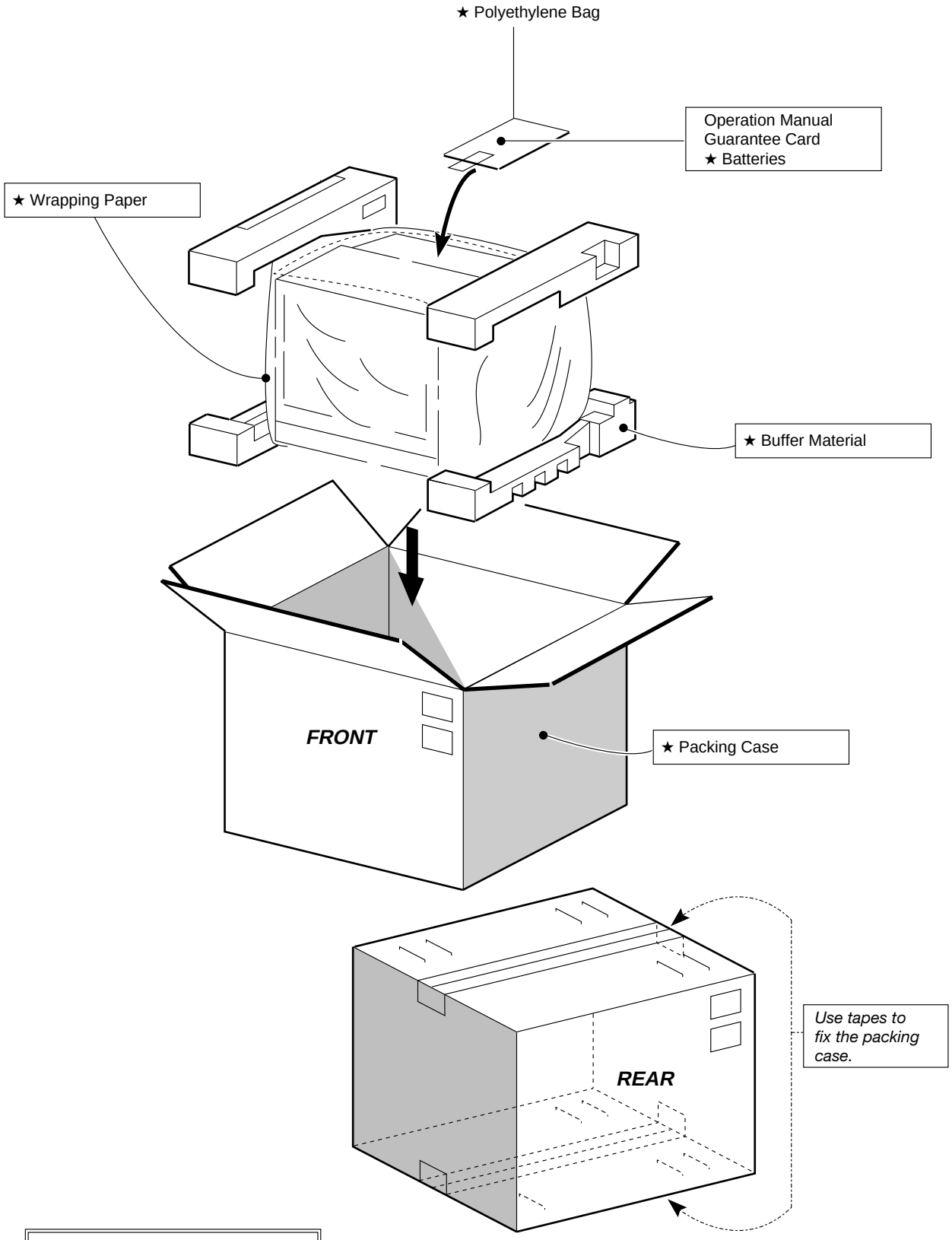
1	CCABA2395WEV8	R	Front Cabinet Ass'y (13L-M100)	AZ
1	CCABA2395WEW0	R	Front Cabinet Ass'y (13L-M150)	AZ
1	CCABA2409WEV6	R	Front Cabinet Ass'y (CL13M10)	BA
1	CCABA2409WEV8	R	Front Cabinet Ass'y (CL13M15)	BA
1-1	*Not Available*	–	Front Cabinet	—
1-2	GCOVA0078PEKA	R	R/C Cover	AD
1-3	JBTN-0306PESA	R	Button (13L-M100, CL13M10)	AD
1-3	JBTN-0306PESB	R	Button (13L-M150, CL13M15)	AD
2	GCABB2309PEKA	R	Rear Cabinet (13L-M100)	AW
2	GCABB2309PEKB	R	Rear Cabinet (13L-M150)	AW
2	GCABB2325PEKA	R	Rear Cabinet (CL13M10)	AW
2	GCABB2325PEKB	R	Rear Cabinet (CL13M15)	AW

14ML10

1	CCABA0107WEH0	X	Front Cabinet Ass'y	
1-1	*Not Available*	–	Front Cabinet	—
1-2	GCOVA0105GJSA	X	R/C Cover	
1-3	JBTN-0105GJKA	X	Button	
2	GCABB0106GJKA	X	Rear Cabinet	



PACKING OF THE SET



★ **MARK** : Not Replacement Items.

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